DOCUMENT RESUME

ED 348 500 CE 061 715

AUTHOR	Leigh, Gregory R.; And Others
TITLE	Basic Education Needs of Adults Who Are Hearing Impaired.
INSTITUTION	Deakin Univ., Victoria (Australia).
SPONS AGENCY	Adult, Community, and Further Education Board, Melbourne (Australia).
REPORT NO	ISBN-0-7306-2789-6
PUB DATE	92
NOTE	108p.
AVAILABLE FROM	Office of the Adult, Community, and Further Education Board, Level 21, Rialto Towers, 525 Collins Street, Melbourne 3000, Victoria, Australia.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Accessibility (for Disabled); *Adult Education; *Adult Literacy; Adult Programs; Adults; Assistive Devices (for Disabled); *Educational Needs; Foreign Countries; *Hearing Impairments; Interviews; Learning Problems; Mainstreaming; Program Improvement; Questionnaires; Semantics; Sign Language; Whole Language Approach
IDENTIFIERS	*Australia

ABSTRACT

This study examined the extent to which people in Australia with impaired hearing were receiving some form of literacy assistance and whether requests for service were fulfilled by providers of Adult Literacy and Basic Education (ALBE) services. A questionnaire was sent to a sample of 71 providers. In addition, telephone interviews were conducted with 100 hearing impaired people by persons competent in hearing impaired communication. The interview schedule focused on seven specific areas: background information; hearing impairment information; educational background/history; current educational requirements; previous experience with adult education; awareness/knowledge about current adult education options; and basic ALBE information. In addition, hearing impaired respondents were asked to provide a self-assessment of literacy and numeracy skills. Among the conclusions and recommendations that were drawn regarding the future ALBE service delivery, several are representative: (1) there is underrepresentation of hearing impaired people in ALBE services; (2) literacy skills are important to this group; (3) there is a low level of awareness about services and programs; (4) service provision program access should be facilitated through oral communication, sign communication, and signed communication; and (5) programs should be based on whole language principles and strategies highlighting semantic processing of text and metacognitive skills. (The report includes 50 tables, 43 references, and a glossary.) (NLA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED345500

BASIC EDUCATION NEEDS OF ADULTS WHO ARE HEARING IMPAIRED

U S DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it

☐ Minor changes have been made to improve reproduction quality

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

J E Kindler

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Prepared by

Disability Program Evaluation Unit
Victoria College (now Deakin University)

for

the Adult, Community and Further Education Board
(Formerly the Division of Further Education)

CE061715

BEST COPY AVAILABLE

BASIC EDUCATION NEEDS

OF

ADULTS WHO ARE

HEARING IMPAIRED

Research by
Gregory R. Leigh
Robert A. Cummins
Julie Shaw

1992

Prepared by
Disability Program Evaluation Unit
Victoria College (now Deakin University, Burwood Campus)
for
the Adult, Community and Further Education Board
(formerly the Division of Further Education - 1990)

Leigh, Gregory R., Cummins, Robert A. and Shaw, Julie

Basic Education Needs of Adults who are Hearing Impaired

ISBN 0 7306 2789 6

This is Volume 1 of a 2 volume report prepared by the Disability Program Evaluation Unit, Victoria College (now Deakin University). The views expressed in this report do not necessarily reflect those of the Adult, Community and Further Education Board. Any errors of fact are the responsibility of the authors. Volume 2 of the report comprises the Appendices.

Further copies of this publication are available from the Office of the Adult, Community and Further Education Board, Level 21, Rialto Towers, 525 Collins Street, Melbourne 3000. Telephone (03) 628 3506.

© Adult, Community and Further Education Board, Victoria, 1992.

The Adult, Community and Further Education Board welcomes all usage of this book within the restraints imposed by the Copyright Act. It is likely that some of the material is subject to copyright agreements. For this reason detailed requests for usage not specifically permitted by the Act should be submitted in writing to the Office of the Adult, Community and Further Education Board, Victoria, Level 21, Rialto, Melbourne 3000.

Published by the Adult, Community and Further Education Board, Victoria.

TABLE OF CONTENTS

SUMMARY CONCLUSIONS AND RECOMMENDATIONS i

1. INTRODUCTION 1
   1.1 Identifying the population 1
   1.2 Hearing impairment and educational achievement 2
   1.3 The scope of the project 5
   1.4 Aims of the project 5

2. METHODOLOGY 7
   2.1 The provider perspective 7
      2.1.1 Selection of providers 7
      2.1.2 Development of the questionnaire 7
      2.1.3 Procedure 8
   2.2 The consumer perspective 9
      2.2.1 Establishment of the reference group 9
      2.2.1.1 Determining reference group size and composition 10
      2.2.1.2 Reference group identification and enlistment strategy 11
      2.2.1.3 Final selection of the reference group 14
      2.2.2 Development of the interview schedules 15
      2.2.3 Interview procedure 20

3. RESULTS 23
   3.1 The Providers 23
      3.1.1 Description of courses 23
      3.1.2 Student characteristics 26
      3.1.3 Reasons for failure to complete courses 30
      3.1.4 Provider attitudes to students with impaired hearing 30
      3.1.5 Staff qualifications and experience 30
      3.1.6 Special facilities held by agencies 32
      3.1.7 Special facilities judged to be useful 33
   3.2 The Reference Group 34
      3.2.1 General demographic characteristics 34
      3.2.1.1 Gender, age and mobility 34
      3.2.1.2 Employment 35
      3.2.1.3 Use of transportation 36
      3.2.2 Characteristics of the hearing impairment 36
      3.2.3 Modes of communication 38
      3.2.3.1 Used and preferred modes of communication 38
      3.2.3.2 Use of communication aids and devices 41
      3.2.3.3 Communication modes with hearing people 44

3.2.4 Social interaction and information sources 44
3.2.4.1 Hearing impairment in the family 44
3.2.4.2 Membership of clubs and organizations 45
3.2.4.3 Sources of information on current affairs 46
3.2.5 Educational history 47
3.2.5.1 Place of education 47
3.2.5.2 Level of education 47
3.2.5.3 Satisfaction with education 48
3.2.6 Social barriers created by educational deficits 48
3.2.6.1 Barriers created by literacy deficits 48
3.2.6.2 Barriers created by mathematical deficits 49
3.2.6.3 Personal assessment of educational adequacy 50
3.2.7 Experience with and attitudes towards adult education 51
3.2.7.1 Extent of experience 51
3.2.7.2 Estimates of past success and problems encountered 52
3.2.7.3 Estimated future interest and support requirements 53
3.2.8 Knowledge of current education options 57

4. DISCUSSION 59
4.1 The provider perspective 59
4.2 The reference group (consumer) perspective 62
4.2.1 The need for functional literacy skills within this population 62
4.2.2.1 Current educational standards 63
4.2.2.2 Literacy and numeracy difficulties 63
4.2.3 Experience of adult education 66
4.2.4 Knowledge and perceptions of adult education 66

5. DELIVERING ALBE SERVICES FOR PEOPLE WITH IMPAIRED HEARING 69
5.1 Communication and program alternatives 69
5.1.1 Communication correlates of hearing impairment 69
5.1.2 Language and communication preference 70
5.1.3 Communication preference as related to program alternatives 73
5.1.3.1 Facilitating access to regular programs - oral communication 77
5.1.3.2 Facilitating access to regular programs - signed communication 83
5.1.3.3 Providing special programs using signed communication (particularly Auslan) 85
5.1.3.4 Providing telephone communication - all service categories 87
5.1.4 Recruitment, enrolment and the location of alternative programs 87
5.2 Curriculum considerations 90

ACKNOWLEDGEMENTS 93

BIBLIOGRAPHY 95

GLOSSARY 99

LIST OF TABLES

TABLE 1:	Reference group composition by organization	15
TABLE 2:	Frequency with which course titles have been used by more than one provider	23
TABLE 3:	Course titles shared by two or more providers	24
TABLE 4:	Number of courses offered by individual providers	25
TABLE 5:	Total number of courses offered within each of 9 broad topics	25
TABLE 6:	Course statistics over the years 1986 - 90	26
TABLE 7:	Distribution of students between course topics	27
TABLE 8:	Composition of classes containing a student with impaired hearing	29
TABLE 9:	Main reasons for student failure to complete the course	30
TABLE 10:	Formal staff qualifications in the area of hearing impairment	31
TABLE 11:	Informal staff experience in the area of hearing impairment	31
TABLE 12:	Proficiency level of staff who are able to use ASL	32
TABLE 13:	Special facilities held by the agencies	33
TABLE 14:	Knowledge of special facilities/arrangements for students with impaired hearing	33
TABLE 15:	Age distribution of the reference group	34
TABLE 16:	Duration at place of residence	35
TABLE 17:	Employment status of the reference group	35
TABLE 18:	Normal method of transportation	36
TABLE 19:	Age at which hearing impairment occurred	36
TABLE 20:	Progression of the hearing impairment over the past 5 years	37
TABLE 21:	Other impairments	37
TABLE 22:	Respondents reporting the ability to use each receptive communication mode	38
TABLE 23:	Preferred mode of receptive communication	38
TABLE 24:	Modes of receptive communication used	39
TABLE 25:	Respondents reporting the ability to use each expressive communication mode	39
TABLE 26:	Preferred mode of expressive communication	40
TABLE 27:	Modes of expressive communication used	40
TABLE 28:	Communication aids used	41
TABLE 29:	Use of telephone	41
TABLE 30:	Use of TTY	42
TABLE 31:	Experience with interpreters	42
TABLE 32:	Methods of communication used with hearing people	44
TABLE 33:	Relatives who are deaf/hearing impaired and language in the parental home	45
TABLE 34:	Sources of information of current affairs	45
TABLE 35:	Membership of organization catering exclusively for people with impaired hearing	46
TABLE 36:	Membership of other organizations	46
TABLE 37:	Location of primary and secondary education	47
TABLE 38:	Highest level of education attained	47
TABLE 39:	Barriers created by literacy deficits	48
TABLE 40:	Extent of difficulty in specific areas of literacy	49
TABLE 41:	Barriers created by mathematical deficits	49

TABLE 42:	Extent of difficulty in specific areas of numeracy	50
TABLE 43:	Personal assessment of literacy/numeracy skills	50
TABLE 44:	Extent of experience with adult education	51
TABLE 45:	Estimates of successful experience with adult education and problems encountered	52
TABLE 46:	Preferred areas of interest	53
TABLE 47:	Level of interest and support requirements	53
TABLE 48:	Caveats on the likelihood of enrolling	54
TABLE 49:	Attitudes towards adult eduation	56
TABLE 50:	Knowledge of current adult education options	57

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

Based on the results of interviews with 100 people with impaired hearing and 71 providers of Adult Literacy and Basic Education (ALBE) services, the following conclusions are drawn. Based on these conclusions several recommendations regarding future ALBE service delivery are offered.

Conclusions:

1. Based on this survey of providers, there is an apparent under-representation of people with impaired hearing in current ALBE services. This is most apparent in regard to people with significant oral communication difficulties and, in particular, Deaf people whose preferred mode of communication is Auslan. Notably, this under-representation is most significant in regard to ALBE programs directed at the development of literacy skills (see sections 4.1 and 4.2.2).

2. Effective literacy skills play an even more important role in the lives of people with impaired hearing than for people in the general population (see section 4.2.1).

3. There is general acceptance among people who have low-level literacy skills and who are hearing impaired that they need, and will accept, appropriate forms of assistance to further develop their literacy abilities (see section 4.2.2.2).

4. The greatest degree of difficulty with literacy skills is experienced in regard to document literacy (particularly in relation to comprehending instructions and completing forms). There is little evidence of significant difficulty in numeracy but some indication of difficulty in regard to quantitative literacy (i.e. the integration of mathematical functions and printed materials) (see section 4.2.2.2). However, the relative significance of these difficulties is not currently reflected in the patterns of enrollment in ALBE programs.

5. Within the survey group, there is a low level of awareness and understanding about current ALBE services and the extent to which they are available and/or applicable to people with impaired hearing (particularly among people who are Deaf) (see section 4.2.4).

6. Among the general ALBE service providers surveyed in this study, there was an over-all low level of awareness and information regarding appropriate educational responses for adults with impaired hearing (see section 4.1).

7. Accepting and accommodating a student's preferred mode of communication will be critical to the success of any educational programs conducted for this population (see section 5.1.1).

8. In order to respond effectively to the ALBE requirements of this population, there is a need to consider three different approaches to service provision. These are: (a) existing ALBE programs with access facilitated through oral communication; (b) existing ALBE programs with access facilitated through some form of sign communication; (c) special programs where access is facilitated through the use of signed communication (particularly Auslan) (see section 5.1.3).

9. In particular, there is evidence to support the need for further special programs as described in (c) above (see sections 3.1.2 and 5.1.3).

Recommendations:

1. That consideration be given to the designation of a number of current ALBE service providers as specific support centres for students with impaired hearing.

2. That the Division of Further Education should liaise directly with the Schools Division of the Ministry of Education and the State Training Board in regard to the possible development of a comprehensive resource centre for supporting students with impaired hearing in post-compulsory educational environments (see section 5.1.3.2).

3. That, wherever possible, appropriately qualified people who are themselves deaf be employed as tutors or deployed (in a paid or volunteer capacity) as assistants in special ALBE programs for this group (see section 5.1.3.3).

4. That all services conducting special programs or offering specific support services should have access to the use of a telephone typewriter (TTY) for communication with current and prospective students with impaired hearing (see section 5.1.3.4).

5. That ALBE service providers be provided with a set of information statements, or a comprehensive manual, outlining (a) appropriate strategies and approaches for incorporating students with impaired hearing into ALBE programs and, (b) the location and nature of special programs and designated support services for this group (see section 5.1.4)

6. That the Division of Further Education seek to establish further special programs for students with impaired hearing in conjunction and cooperation with a number of existing social and service organisations for people with impaired hearing;

   and/or

   That the the Division of Further Education seek to establish further special programs for students with impaired hearing in strategic metropolitan and regional locations. Such programs would necessarily involve comprehensive liaison with social and service organisations for deaf and hearing impaired people in regard to information sharing and recruitment (see section 5.1.4).

7. That all services providing special or support programs for students with impaired hearing should include a designated member of staff to liaise with the relevant social and service organisations for people with impaired hearing to ensure the provision of effective strategies for recruitment and enrolment (see section 5.1.4).

8. That literacy programs for adults with impaired hearing should be based on holistic (whole language) principles and teaching strategies which highlight the development of semantic processing of text and the use of metacognitive skills (see section 5.2).

9. That information on the approaches and strategies indicated in 8 above be included in any information statements or handbook on providing ALBE programs for people with impaired hearing (see section 5.2).

1. INTRODUCTION

1.1 Identifying the population

Hearing impairment is a broad term which may appropriately be applied to any loss of hearing regardless of degree. According to the Australian Bureau of Statistics (Cameron, 1982) hearing impairment is the second most common disabling condition in Australia with 3.6% of the total population reporting some degree of impairment. By applying a more specific definition, Cameron (1982) identified 160,300 Australians (approximately 1.1% of the population) as having a hearing impairment and an associated "communication handicap". Application of this proportion to the current Victorian population yields an estimate of 47,800 people with impaired hearing who actually experience some degree of communication handicap as a consequence of their impairment. However, for the majority of these individuals the communication consequences of their impairment will be minimal. According to Cameron (1982), only 30% of this group experience a moderate or greater degree of communication difficulty. Application of this proportion to Victoria provides an estimate of 14,350 Victorian residents who experience a degree of hearing impairment which is sufficient to create ". . . difficulty in understanding or being understood by strangers" (Cameron, 1982, p. 176).

The actual communication difficulties associated with hearing impairment primarily relate to the use of speech. However, the centrality of spoken communication to our social structure clearly indicates the considerable social consequences of a significant hearing impairment. More than any other physical or sensory impairment, a significant hearing impairment is essentially a "social" matter. However, as Power (1990) acknowledges, hearing impairment ". . . need not be a disability unless the social milieu in which the individual lives makes it so".

It is the recognition of the social consequences of significant hearing impairment which has led to it being increasingly defined in terms of social criteria (Sacks, 1990; Higgins and Nash,1987). From the social (socio-cultural) perspective, people with impaired hearing can be seen to fall into two natural groups. The first of these groups comprises those people who describe themselves as **Deaf** and as such belong to the Deaf Community (or culture).

This cultural group has many of the same characteristics as non-English speaking cultural minorities including (inter alia) social congregation, inter-marriage, and a preference and mutual respect for a common language (in this case Australian Sign Language or Auslan). Preliminary estimates by Hyde and Power (1990) suggest that the Australian Deaf Community comprises approximately 10,000 Deaf people. Proportionally this would suggest a Deaf Community of approximately 2,500 people in the State of Victoria.

Considering, therefore, the broad group of Victorians who experience at least moderate communication difficulties as a consequence of hearing impairment, it is clear that the vast majority are not, in this sense, Deaf. This much larger group (many of whom will be post-lingually hearing impaired) are often referred to as the Hard of Hearing. In Australia however, the term "Hearing Impaired" is gaining currency as a descriptor for this group. On average, this population experience significantly lesser degrees of impairment than people who are Deaf, but the full range of types and degrees of impairment is still represented. The critical identifying feature is that their preferred mode of communication is almost invariably oral (i.e. speech and listening/lipreading) regardless of the difficulties that they may experience in using these skills. As a consequence, this group strongly identifies with the majority language and culture of the "Hearing world" (Laszlo, 1984; Power, 1990). Typically members of this group are not able to use sign language and typically would not desire to do so (Power, 1990). However, many may use some form of manual communication supplement such as signed English or cued speech for certain communicative situations. The intricacies of the relationship between communication abilities and communication preferences for both of these groups will be considered in detail in the latter chapters of this report.

Returning briefly to the Bureau of Statistics criteria, these two socially defined groups of people, who either regard themselves as deaf or as hearing impaired, can be combined to describe that section of the population who experience significant communication difficulties as a consequence of hearing impairment (i.e. approximately 14,350 people in Victoria). The membership of this composite population clearly includes a wide diversity of individuals ranging from those who have difficulty in ". . . understanding or being understood" to those (culturally) Deaf people who use an entirely different language (Auslan) for communication. It is this overall population which is the focus of our report.

1.2 Hearing impairment and educational achievement

Research into the educational ramifications of hearing impairment has consistently evidenced significantly lower levels of academic achievement for students with impaired hearing (particularly deaf students) when compared with their hearing counterparts. While little evidence is available in regard to the Australian situation, an ongoing series of studies has been conducted over many years by the Office of Assessment and Demographic Studies at Gallaudet University in Washington, D.C. The most detailed of these studies was by Gentile (1973) who reported on a national sample of almost 17,000 deaf and hearing-impaired students based on their scores on the Stanford Achievement Test. Gentile found that overall, scores for students with impaired hearing were significantly lower than the general population norms.

Interpretation of these results indicated that academic achievement scores were consistently highest in those areas where proficiency in standard English was least relevant (e.g. arithmetic computation) and were lowest in areas that depended upon the use of standard English (e.g.

word meaning, paragraph meaning, arithmetic concepts, arithmetic applications). Notably, these results reflect a similar profile to those associated with students from non-English speaking backgrounds.

In a similar study for the Office of Assessment and Demographic Studies, Allen (1986) compared data for 1974 and 1983 from a national sample of deaf/hearing impaired students and reported significant improvements in the average scores for both reading and mathematics. While this is a highly desirable outcome, it should be recognised that, in maths for example, the improvement was approximately one grade level for adolescents (i.e. from just under the 6th grade level to just under the 7th grade level). Thus, while overall achievement can be seen to be improving, there remains cause for concern that so many deaf / hearing impaired school leavers continue to attain levels of literacy and numeracy that are so much lower than would be expected for a population with a normal range of intellectual ability.

Similar studies conducted in Great Britain by Rodda (1970), Conrad (1979) and Savage, Evans and Savage (1981) have all produced similar results to those of Gentile (1974) and Allen (1983). While no substantial body of information regarding academic achievement levels exists for the Australian population, less formal evidence (as reported by Power, 1990) would tend to suggest that the situation is little different in Australia.

Given this general position, it is surprising that specific curriculum initiatives to redress this situation have not always been higher on the agenda for schools and services for deaf / hearing-impaired students. Rather, the traditional emphasis (and to a certain extent the continuing emphasis) by educators of deaf students in Australia has been on the development of language and communication skills - particularly oral communication skills. This is despite evidence (Johnson, Liddell and Erting, 1989; Ewoldt, 1984) that the area of literacy is attracting much more attention both in the current literature and contemporary educational practice for students with impaired hearing in North America.

Such an emphasis on literacy in the curriculum can be seen (at least in part) as recognition of the fundamental role that literacy plays in the lives of people with impaired hearing. Indeed, it may be argued that well developed literacy skills are even more important for people with impaired hearing than any other group in society.

A number of developments and issues can be identified to support this position. For example:

- Literacy skills are of increasing importance in social and recreational contexts for people with impaired hearing as Telephone Typewriters (TTYs) and Caption Decoders become universally available (see Glossary). Clearly, effective use of these text based systems assumes adequate literacy skills on the part of users.

- The advent of other (non auditory) information technologies such as Teletext (Seventel and Viatel, see Glossary) present the opportunity for equal access to information for

people with impaired hearing **but** rely totally on textual transmission of information and hence upon the literacy skills of users.

- **Every** comparative study of the receptive communication abilities of deaf/ hearing-impaired students that has included reading as one possible option (i.e. along with sign, oral/aural, fingerspelling, etc.) has found it to be the most efficient vehicle for communication for this group (White and Stevenson; Conrad, 1977; Grove and Rodda, 1984).

The final point here is particularly significant and would tend to reinforce concerns about educational over-emphasis on the development of communication skills (oral or manual) at the expense of other curriculum areas (particularly literacy). While hearing impairment does impose some limitations on the available strategies and cuing systems that can be used in developing literacy skills, there is little evidence to suggest that the ultimate difficulties with literacy that are experienced by this population are in any way a necessary consequence of hearing impairment. Rather, as has been acknowledged by Rodda and Grove (1987) and King and Quigley (1985), many of the difficulties currently experienced by this group may be accounted for by this lack of curriculum emphasis and/or inappropriate pedagogical practice. The latter would appear to be particularly true for students whose communication system is visual (e.g. some form of sign) rather than auditory.

There is, therefore, a need for increased educational effort to be directed at the development of literacy skills in educational settings for these students. However, even with a change in emphasis and strategies, the outcomes of new practices in school-based literacy education for this group will not be experienced by the majority of the adults with impaired hearing. As Wickert (1989) acknowledges, more than 70% of the workforce in the year 2000 have already left school. There is clearly a need to address the specific literacy difficulties of people with impaired hearing as part of the current infrastructure for providing adult literacy and basic education services.

It should be recognised that this group will also experience difficulties with literacy for all of the reasons which effect members of the general population (e.g. environmental deficits, lack of access to appropriate role models and literature). Recent investigations of the literacy abilities of the general adult population have been reported by Wickert (1989). As a consequence of an Australia-wide investigation, Wickert reported on a wide range of difficulties experienced by adults. In relation to quantitative literacy for example, more than 10% of respondents failed to score on any of the assessment measures used. Clearly, there is a substantial proportion of adults who experience literacy problems. However, given the preceding discussion, there is every reason to suggest that a significantly larger proportion of the population of adults with impaired hearing are currently experiencing literacy difficulties and have a similar need for appropriate assistance to develop their abilities.

1.3 The scope of the project

Regardless of the actual number of people with impaired hearing who experience difficulties with literacy, it is apparent that current Adult Literacy and Basic Education provisions may not be reaching a significant proportion of these potential clients. At the commencement of this project, only two designated Adult Education providers were easily identified as offering programs designed specifically to meet the needs of adults with impaired hearing in Victoria. Together, these programs enrolled a total of only 16 people in 1990. Even if the incidence of literacy difficulties among this group was comparable with the greater population, these figures would tend to suggest a large unmet need.

The Division of Further Education in Victoria currently provides Adult Literacy and Basic Education (ALBE) programs through approximately 200 providers across Victoria. Given this broadly based infrastructure, it is possible that many people with impaired hearing are currently receiving some form of assistance through these channels. However, the extent to which this is happening is unknown. There is also no current information relating to the extent to which requests for service from such people are able to be successfully fulfilled by current service providers. This study sought to shed light on these issues by interviewing (a) the current providers of ALBE services and, (b) people with impaired hearing who are currently experiencing problems with literacy (i.e. as potential users of these services).

1.4 Aims of the project

Overall, the study sought to fulfil the following aims:

- To ascertain and report on the extent of current demand by hearing impaired adults for placement in Further Education programs and courses.
- To ascertain the potential demand for Division of Further Education programs and courses by adults with a hearing impairment.
- To report on the ability of current provision to meet current and potential demand.
- To investigate and document the mechanisms of support (generalist and specialist) required by adult students with a hearing impairment.
- To document the effectiveness and cost of those mechanisms.
- To recommend to the Division what support is needed by hearing-impaired students and how that support can be provided given current resourcing levels.

2. METHODOLOGY

2.1 The provider perspective

2.1.1 Selection of providers

The Adult Literacy Victoria Contact List (1990) lists some 200 agencies which run the kinds of programs suitable for the target group of consumers. From this list, 66 providers were initially chosen as a stratified sample based on geographic and socio-economic factors.

Geographic sampling was based on the 11 Division of Further Education regions, with six providers being drawn from each.

Socio-economic sampling was performed on data provided by the 1986 Census of Population and Housing (Australian Bureau of Statistics, 1986). To achieve the sampling, each provider listed in a particular region was placed into one of three socio-economic categories defined as house-hold income for the region from $0-12,000, $12,000-32,000, $32,000+. After all agencies had been placed into their appropriate categories two providers were selected at random from each category.

(For the list of agencies that made up the final sample see Volume 2, Appendix F).

2.1.2 Development of the questionnaire

In accordance with the aims of the project, this questionnaire sought to determine the extent of current demand for such courses by adults who are hearing impaired, the ability of providers to meet current and potential demand, and to document the available mechanisms of support for such students. To this end the questionnaire comprised the following sections (see Volume 2, Appendix A for the complete document):

(i) Titles and objectives of each Adult Literacy and Basic Education course offered by the agency.

(ii) For each course, the following information was solicited covering the period 1986-1990.

- number of enrolled students
- student age
- number of applicants
- number of students with a hearing impairment

- overall success-rate of non-disabled and hearing impaired students
- main reasons for students with a hearing impairment to fail to complete the course.

(iii) Provider attitude to students with a hearing impairment.

(iv) Ability of the agency to cater for the special needs of students with a hearing impairment as:

- special facilities
- formal training of staff members
- relevant informal experience of staff members.

(v) Agency experience with special facilities particularly in relation to:

- frequency of use
- perceived effectiveness
- cost of purchase and maintenance.

2.1.3 Procedure

The agencies were divided into two groups, with one agency drawn from each regional and socio-economic sub-set. The two groups of 33 agencies so formed were then sent letters of introduction in two waves, with each wave separated by 3-4 weeks. This procedure enabled the subsequent telephone interviews to be conducted in close temporal proximity to the time of initial contact.

Due to the unavailability of some providers, a third wave of letters was sent. Again, one provider was randomly selected from each of the 33 previously-identified categories. The final result of this process was the sample of 71 providers listed in Volume 2, Appendix F of this report.

Initial contact with each agency was thus made by mail. Four separate items were despatched as:

- a letter of introduction on behalf of the Unit from Dr Cummins
- a letter of introduction on behalf of the Ministry of Education from Mr Goldsworthy
- copy of the Provider Questionnaire
- a pre-paid self-addressed envelope.

The letter of introduction informed about the nature of the project, stated that telephone contact would be made shortly, and requested that the recipient did not complete the questionnaire until such contact had been made.

Some 4-5 days after mailing each wave of questionnaires the agency was contacted by telephone. This initial conversation sought to achieve the following purposes:

- To introduce the project and answer any queries
- To arrange for a telephone interview to be held at a future mutually-convenient time.

The contact person was also informed that completion of the questionnaire would require some detailed archival information. They were requested to obtain this information prior to the date of the interview.

At the time of interview the interviewer provided an option of either completing the questionnaire for the interviewee or for the questionnaire to be completed by the interviewee. Most favoured the latter option. The interviewer then progressed through the questionnaire ensuring that each question was understood and that all relevant data were recorded.

2.2 The consumer perspective

2.2.1 Establishment of the reference group

Ideally, the selection of a representative group of people with impaired hearing and low literacy skills would involve a random sampling of the total population followed by stratified sampling based on literacy abilities. However, the use of such procedures were beyond the resources available for the current project. In addition, there is no record of individuals with significant hearing impairment in Victoria and it was considered that the imposition of a literacy testing procedure could be a source of alienation for participants. Consequently, since it was not possible to identify the population of people with impaired hearing who also experience literacy difficulties, it was necessary to locate such people on an individual basis. In order to do this, cooperation was sought from a number of social and service organisations which serve people with impaired hearing.

The organisations that were approached in the first instance were:

A. Victorian Council of Deaf People (VCOD): this is an umbrella body representing a collection of social, advocacy and service clubs and associations for deaf and hearing impaired people. In particular, the constituent membership of this organisation ensures effective links to groups representing the "Deaf Community" and, as such, those people for whom sign language is the preferred (or in many cases the only) form of communication.

B. Victorian Deaf Society: the society's charter requires it to provide social welfare, employment, interpreting services (in Auslan), social, sporting and recreation programs. As such it provides a physical base for many of the groups covered by the Victorian

Council of Deaf People. In particular, the Society is involved in the provision of some Adult Literacy and Basic Education programs as a category "C" provider under the Division of Further Education. The Society also manages the Hearing Education and Rehabilitation Service (HEAR Service) which provides aural rehabilitation programs, communication development programs and general assistance related to the selection and management of communication devices.

C. Better Hearing Australia (Victoria): this is the Victorian branch of a national self-help organisation for people who are hearing-impaired. While the majority of clientele could be described as hard of hearing, the organisation broadly provides services and advocacy for all members of the hearing impaired population who use oral communication, the vast majority of whom are hearing aid users.

It is not claimed that the membership of these organisations accounts for the entire population under consideration. However, these organizations do represent and involve individuals with all degrees of impairment and the full range of communication preferences.

2.2.1.1 Determining reference group size and composition

At the initial planning stage of the project, it was determined that the available time and resources would permit interviews with 160 individuals. A process was designed to identify all individuals from these groups who met the stated criteria of past or current literacy or basic educational difficulties (the actual operational definition employed is detailed below). From this list of potential reference group members a final stratified sample was to be selected. It was considered imperative that the final group be compiled in such a way as to ensure that it effectively represented those members of the population who were likely to experience the greatest need in regard to Adult Educational provision.

According to Conrad (1979) there is an observable relationship between degree of hearing impairment (and the type of schooling received as a consequence of that impairment) and the degree of difficulty experienced with literacy. In his study of hearing-impaired school leavers, it was found that reading ages ranged from 10 years 4 months for moderately hearing impaired persons to 8 years 3 months for profoundly deaf persons. Power (1990) acknowledges a similar situation in Australia. Based on this evidence, it is possible to conclude that the potential for difficulty with literacy and/or basic educational skills is greatest among the more severely impaired members of the population. However, this does not imply a direct causative relationship between degree of impairment and reading difficulty. Rather, as suggested by Webster (1986) and King and Quigley (1985), this may be an indication of inappropriate approaches to developing literacy skills which directly disadvantaged the more significantly impaired students. In particular, King and Quigley argue that this is most likely to have been true for students whose preferred mode of communication was manual and in particular, those who used a natural Sign Language.

Consequently it was considered that preferred mode of communication should be employed as a criterion for proportional representation in the reference group. Specifically, it was decided that every effort should be made to provide for the greatest representation from individuals whose preferred mode of communication was manual (particularly Auslan). The target proportions for inclusion in the reference group were as follows:

A. Adults who communicate orally: one quarter.

B. Adults who use signed communication: three quarters.

Therefore it was determined that 40 individuals should be selected from the lists provided by organisations which provide for orally communicating hearing-impaired people. The remaining 120 individuals were to be selected from the lists provided by the remaining organisations. That is, groups which have a high proportion of membership from the Deaf Community and, as such, individuals whose communicative preference is clearly for manual communication (particularly Auslan).

2.2.1.2 Reference group identification and enlistment strategy

A series of meetings was organised with the executive membership of each of the three organisations listed above in early January, 1990. Specific strategies for identifying and seeking the cooperation of potential interviewees were developed in consultation with each group. Because of their locational and organisational links, the meetings with the Victorian Deaf Society (VDS) and Victorian Council of Deaf People (VCOD) were held concurrently by agreement.

In all cases, the overall strategy determined at these meetings involved the identification of key personnel within the organisation or within a specific subgroup of the membership. These liaison people were then consulted with regard to identifying and liaising with potential reference group members.

The target reference group was operationally defined for all participating organisations as being:

> "those individuals who were known or suspected to be experiencing difficulties in regard to functional literacy, numeracy or other basic education area (as demonstrated in everyday interaction and activities), and/or those who were known have some current or previous experience with Adult Education programs (particularly Adult Literacy and Basic Education programs), and/or those who, by their own identification, were dissatisfied with their current literacy or basic educational skills and had considered (at any time) some further educational involvement".

The actual strategies adopted in respect to each of the organisations are outlined below.

Victorian Council of Deaf People/Victorian Deaf Society: Because of their large and diverse memberships, it was agreed to liaise directly with a number of sub-groups of the two organisations. This highly focussed approach was effective in terms of identifying individual reference group members but was extremely consuming of both time and effort for a variable return. The sub-groups were as follows:

VCOD:

- Earforce
- Catholic Association of Deaf and Hearing Impaired People - Australia (Victoria) (CADHIPAV)
- Jolimont Square Social Club (JSSC)
- Moomba Deaf Association (MDA)

VDS:

- Hearing Education and Aural Rehabilitation Service (HEAR Service)
- Special Projects Section.

Contact was made with Earforce, CADHIPAV and the Moomba Deaf Association in February and liaison persons were readily identified in each of the organisations. In the case of Earforce and CADHIPAV, similar strategies were adopted. In both cases, one of the project managers attended one (or more) regularly scheduled meetings of members during February/March to outline the project and the potential benefits for deaf/hearing-impaired people. Several potential reference group members were identified by self nomination as a consequence of these sessions. Subsequent to these meetings the liaison person was enlisted to identify and approach other potential reference group members. In both cases, this process proved very successful and yielded a combined total of 52 potential interviewees.

In the case of the Moomba Deaf Association, the liaison person served to identify and approach all potential reference group members personally. Similarly, in the case of the Deaf Society, the Special Projects Worker agreed to act as a liaison person and was able to identify and approach all potential reference group members directly. This strategy proved particularly effective as it enabled contact with adults who were currently accessing the ALBE programs that were being provided under the auspices of the Deaf Society.

Contact was made with the executive of the Jolimont Square Social Club in early March. In this case, the strategy preferred by the executive of the Club was to advise their membership of the project through the Club newsletter and to seek self-nomination.

The researchers expressed concern that this strategy would be potentially ineffective given that the target individuals would, by definition, have difficulty in accessing the newsletter information. However, this was confirmed as the executive's preferred strategy. By mid April, this process had failed to identify any potential reference group members. In late April two liaison persons from within the organisation were able to be involved directly in the identification of potential reference group members, but the loss of time resulted in only 12 people being identified from this source.

Contact with the HEAR Service was initially made in early February and the Hearing Education Services Coordinator was designated as the relevant liaison person. From both past and present clients of the Hearing Education and Aural Rehabilitation programs conducted by the HEAR Service, 17 potential members of the reference group were identified. Since many of these persons were no longer active clients, and others were irregular attenders of the services offered by the organisation, direct contact by the liaison person was extremely difficult. For ethical reasons, the Service was unable to simply provide the names and addresses of identified persons directly to the researchers. Therefore, each individual was approached directly through the mail with combined letters from the HEAR Service and the Disability Program Evaluation Unit seeking their specific involvement. As in the previous case of the Jolimont Square Social Club, there were obvious difficulties in relation to an approach which required individuals to respond to a written request. However, given that in this case the communication was via a personally addressed letter, it was hoped that each person would be assured of receiving the message through their normal strategies for dealing with incoming correspondence. Unfortunately, however, only three individuals responded to this approach.

Better Hearing Australia (Victoria): In this case, the preferred strategy was to operate through ten of the aural rehabilitation programs that are administered by Better Hearing Australia within Melbourne and surrounding districts. In February, letters were sent to the tutors/coordinators of all of these programs. These letters outlined the project in detail, defined the target reference group and sought the tutor's cooperation in identifying and requesting the involvement of potential interviewees. Each letter was accompanied by a supporting (and encouraging) letter from the Executive of Better Hearing Australia (Victoria). In all cases, tutors were requested to return lists showing the names and addresses of only those individuals whom had been identified **and** had agreed to be interviewed as part of the project. In addition to this process, the central management of the Association were able to provide a further list of potential members of the reference group from knowledge of past clientele. These process served to identify a combined total of 22 potential members of the reference group.

Overall, the processes of strategic identification detailed above were effective. However, the process was also extremely consuming of both time and human resources. Almost invariably, successful enlistment was through direct personal contact by the liaison persons and subsequently by one of the interviewers. As indicated above, processes that included the use of written approaches (by letter or otherwise) were largely unsuccessful.

Effective communication about the aims of the project and the organisational aspects of individual involvement was most successfully achieved through face to face communication. In the case of a small number of individuals with a lesser degree of hearing impairment, effective communication could be made through vocal use of the telephone. Similarly, telephone contact could be made with those individuals who had access to and facility with a telephone typewriter (TTY). However, such access and facility was found to be minimal among the target group. This is consistent with the findings of Leigh and Smith (1989) who reported that access to this this mode of communication still has a limited penetration among the population under consideration and has inherent difficulties for those individuals who experience difficulties with literacy (viz. the target group for this study).

In the initial planning of the project, both time and resources were made available for an extended process of "face to face" contact in order to complete the interview stage of the project. However, the time and resources consumed in generating the reference group were not anticipated fully. These issues warrant careful consideration in the formulation of any subsequent projects and also in regard to any strategies that are determined for contacting individuals and disseminating information relating to future adult literacy and basic education provisions for this group (in particular, these issues warrant consideration in relation to Recommendation 7). In terms of this project, this underestimation of the required time and resources had an impact upon the size of the final reference group.

2.2.1.3 Final selection of the reference group

Under the original strategy, it was intended that the full list of consenting potential reference group members be stratified according to membership of the two categories outlined (i.e. Group A: oral communication preference, and Group B: signed communication preference). Based on this stratification, individuals would be randomly selected to fulfil the respective totals of 40 and 120 for each of the two identified groups. However, by mid March, the considerable difficulties in reference group identification (as already described) were evident and it became clear that the timetable for reference group selection would run far beyond the target completion date of March 15th. Therefore, it was decided to commence interviews with those individuals who had thus far been identified. This ensured that the time consuming interview process commenced in March (as scheduled). However our planned sampling process was not able to be employed.

In terms of actual interviews completed, the final size of the reference group was 100 individuals. Of these 26 were from Group A organisations which cater for adults with a preference for the use of oral communication (i.e. Better Hearing Australia, Earforce, HEAR Service and the minority orally communicating membership of CADHIPAV) and 74 were from Group B organisations which cater for adults with a preference for the use of signed communication (i.e. VDS, JSSC, MDA and CADHIPAV). This represents a proportion of approximately 1:3 which is in line with the originally determined criteria.

The actual contribution to the reference group by each organisation is shown in Table 1.

Table 1. Reference Group Composition by Organisation

Organisation	Number included in reference group
Better Hearing Australia (Victoria)	10
Hearing Education and Aural Rehabilitation Service	2
Earforce	8
Catholic Association of Deaf and Hearing Impaired Persons Australia (Victoria)	35
Jolimont Square Social Club	10
Victorian Deaf Society Programs	10
Moomba Deaf Association	20
Bendigo Youth Support Group	5
TOTAL	100

2.2.2 Development of the Interview Schedule

In accordance with the aims stated in 1.4, this investigation sought to profile the educational experiences, current educational requirements and further aspirations of a group of hearing-impaired people who have functional literacy difficulties and/or a level of education below year ten standard. By definition therefore, the reference group for this investigation would have experienced considerable difficulty in using questionnaires that required the use of literacy skills. For this reason, data was gathered by individual interview. The schedule was designed to provide for a maximum of data to be recorded in a predetermined multiple-response format with ample opportunity for the recording of detailed open ended responses to particular issues.

The interview schedule was designed to be administered by persons competent in communicating with people with impaired hearing. These interviewers were instructed to pursue the required information in the manner (and language) that was most appropriate to the particular person, while ensuring the acquisition of all required data.

Literacy is inextricably bound with issues relating to the home, work and socio-cultural environments (Wickert, 1989). Therefore, it was deemed important to ensure that a large amount of information was gathered concerning the past and present background experiences of the reference group in addition to a series of more specific issues related to literacy abilities and service provision. Overall, the interview schedule was designed to focus on seven specific areas:

1. Background information
   - gender
   - residential location and type
   - history of familial hearing impairment
   - employment status and type
   - membership of clubs/associations, particularly those which are specific to deaf/hearing-impaired people (this information was sought in relation to possible implications for the delivery of Adult Literacy and Basic Education services)
   - types of transportation used (work related and other).

2. Information relating to hearing impairment
   - age of occurrence of hearing impairment
   - other disabling conditions
   - communication methods used and preferred (a distinction was drawn here between those modes of communication which the respondents were able to use and those that they were most comfortable with and most preferred to use)
   - communication aids used (electronic listening aids and other communication devices such as telephone typewriters and caption decoders)
   - use of interpreters (types used and source of funding)

3. Educational background/history
   - types of schools attended and support services used
   - highest level of education
   - satisfaction with education and individual perception of difficulties and limitations in schooling

4. Current educational requirements
   - past experience of reading difficulties in vocational and personal areas

- self appraisal of current difficulties experienced in relation to use of literacy skills
- overall personal assessment of literacy skills in relation to possible need for further education
- past experience of difficulties with mathematics skills in vocational and personal areas
- self appraisal of current difficulties experienced in relation to use of mathematics skills
- overall personal assessment of mathematics skills in relation to possible need for further education

5. Previous experience with adult education
   - prior experience of further education (particularly ALBE programs)
   - difficulties experienced in relation to any ALBE or other further education programs attempted
   - areas of interest in relation to potential involvement in further education
   - anticipated requirements in order to undertake a further education program
   - attitude toward ALBE programs (relevance, interest, necessity)

6. Awareness/knowledge about current adult education options
   - knowledge about current course options in further education
   - perceived reasons for involvement in further education (particularly ALBE)
   - knowledge/expectations in relation to current support services for deaf/hearing-impaired people in further education.

7. In addition to these six areas, the interview schedule was designed to provide respondents with some basic information about ALBE objectives and programs and to investigate their attitude toward possible future involvement. The final page of the interview schedule includes a list of points which identify the scope and nature of ALBE courses in Victoria (see Volume 2, Interview Schedule, Appendix B). Each interviewer was instructed to provide this information to each respondent in a form which was clearly comprehensible and to ascertain their comprehension of the information. This section was based on information provided for this purpose by the Division of Further Education. Subsequent to the presentation of this information the final question (see Schedule) was designed to seek a personal estimate as to the likelihood of future involvement in further education.

The interview schedule is included in Volume 2 as Appendix B. Wherever attitudinal information was sought, a standard Likert five-point scale was employed. Here it was intended that the interviewer would either read the full range of possible responses to the respondent for their selection or, alternatively, respondents were able to indicate their response directly on the interview schedule.

As previously indicated, no formal testing of literacy or numeracy abilities was undertaken as part of the interview process. Rather, respondents were to be asked to provide their own assessment of their literacy and numeracy skills relative to their own needs and environmental contexts. Much of the development effort associated with the the schedule was directed at this issue. Section four (pages 14 to 16) of the interview schedule covers this self assessment procedure and was designed to cover three areas in relation to both literacy and numeracy. These were:

(a) Respondents' assessments of the personal and vocational correlates of their current literacy and numeracy abilities:

In this area, items were designed to allow respondents to comment on the role that their literacy and numeracy abilities have played in terms of limiting access to employment or limiting opportunities within current or previous employment situations. In the case of literacy, respondents were also asked to comment on any difficulties with literacy experienced in the process of gaining a drivers' license (if applicable).

(b) Respondents' assessment of their current skills in specific areas of literacy and numeracy:

In these sections, a number of items were used to facilitate the respondents' comments and subsequent discussion about their own literacy and numeracy abilities. The literacy items were designed to focus on two dimensions - document literacy (four items) and prose literacy (four items). The three numeracy items were designed to facilitate respondents' comments regarding their ability to use mathematical operations (addition, subtraction, etc.).

Each of the eleven items in these sections involved the respondent being asked to comment upon their typical response to a particular literacy or numeracy task. In each case, respondents were to be provided with the example task and asked to comment as to how they would typically complete the task and also about any difficulties that they would typically encounter. The actual example tasks in each case were as follows:

Document literacy: This area refers to the knowledge and skills necessary for the location and comprehension of information in forms, accounts, guidelines and instructions and such (Wickert, 1989). Four items on document literacy were included in the interview schedule as follows:

• reading household accounts:	reading gas or electricity bills, rate accounts, etc.

- reading instructions on household appliances: reading instructions on how to operate a new TV or vacuum cleaner.
- reading medical information: reading instructions on medicines (i.e. from the doctor or others such as cough syrups, etc.).
- reading/filling out government/other forms: reading/completing a Medicare claim form.

Prose literacy: This area refers to the knowledge and skills necessary to understand and use textual material (Wickert, 1989). Four items on document literacy were included in the interview schedule as follows:

- reading financial information (banking): reading letters and other information from the bank.
- reading newspapers: general comprehension of standard newspaper items.
- use of TTY: reading other people's messages and typing own messages.
- use of captions: understanding/being able to follow the captions on an adult standard television program.

Numeracy: This area refers to the knowledge and skills necessary to use mathematical operations (addition, subtraction, etc.) to complete tasks that occur in everyday situations or are embedded to varying extents in printed materials (i.e. quantitative literacy).

- day to day money usage: working out money required to pay for an item and then checking the change given by a shop assistant.
- managing household finances/accounts: household money management, payment of accounts.
- banking: adding amounts of money (e.g. cheques) for a deposit/checking bank balances. Completing a deposit/withdrawal form.

Interviewers were required to elicit as much information as possible from the respondent regarding their approach to each identified task. Based on this discussion, the interviewer was then required to rate the respondent's response according to a scale of difficulty. The scale points were defined in the following manner:

- "Completely Unable":
  Could not do the task independently (i.e. would not attempt the task/would always require someone's assistance to get the information or complete the task).

- "Major Difficulty":
  Experiences considerable difficulty (**on at least some occasions** would not be able to complete the task or would require assistance to complete the task or get the information).

- "Minor Difficulty":
  Manages the task independently but with some degree of difficulty or confusion.

- "No Difficulty":
  Manages the task independently.

(c) Respondents' overall assessment of their literacy and numeracy skills relative to their personal motivation to improve those skills:

Two questions were designed to provide respondents with the opportunity to make an overall assessment of their current literacy and numeracy abilities relative to their current life needs. Interviewers were directed to pursue this initially as an open ended question and to ultimately record the response in terms of two dimensions: (a) adequacy for current life needs and (b) desire to improve these skills through some form of educational intervention (see Volume 2, Interview Schedule Appendix B).

2.2.3 Interview Procedure

Nine research assistants were employed to undertake the interviews with members of the reference group. Of these, six were deaf people fluent in the use of manual communication (particularly Auslan). Of the three hearing interviewers, one was an experienced interpreter and welfare worker with deaf people and the remaining two were trained teachers of hearing impaired students with considerable experience in communication with a range of communication approaches. All interviewers were trained in a two hour session or through individual instruction by one of the researchers. In addition, all interviewers were provided with an example of a completed interview schedule (titled "Guidelines for Interviewers") which was heavily annotated and was designed to be used as step by step instruction for completion of the interview and could be referred to at any time during the actual interview process. This

document was used as the basis of the interviewer training sessions. Interviewers were also provided with a printed summary outlining the main points of the interview process and important background information in relation to the project (titled "Important Information for Interviewers" - see Appendix E, Volume 2).

In all cases, interviews were arranged subsequent to the respondent being fully briefed about the project by the relevant liaison person and having given prior consent to their personal involvement. Interviews were conducted at a mutually agreeable location. In the majority of cases, the interviews were conducted in the respondent's home.

As previously indicated, interviewers were instructed to conduct the interviews in a manner (and in the language) that was most appropriate to the individual being interviewed. To this end, interviewers were matched to the communication requirements of each respondent. In a significant majority of cases the interviews with signing deaf people were conducted by the deaf research assistants. In the remaining minority of cases, the interviews were conducted by the research assistant with skills and experience as an interpreter for deaf adults. On a number of occasions the interviews were actually conducted by the liaison person who had made initial contact with the respondent. This procedure, where available, proved to be very effective in terms of ease of interaction (and subsequent quality of response) and also proved to be extremely efficient in terms of utilization of resources.

As noted in the instructions to interviewers, there was no compulsion placed upon the respondent to answer any question or to discuss any issue. Wherever possible, the interview was conducted in a conversational style with the interviewer serving to facilitate comment and to faithfully record those comments in an anecdotal manner or in accordance with the pre-determined response categories on the interview schedule. Times for completion of the interviews ranged from 30 minutes to 65 minutes with the mode length of interview (as reported by interviewers) being approximately 45 minutes.

3. RESULTS

3.1 The provider interviews

Data were obtained from 71 providers (see Volume 2, Appendix F).

3.1.1 Description of courses

Courses are being offered under a total of 136 different titles (as listed in Volume 2, Appendix C, Section (i)). The basic literacy and numeracy content is taught within a considerable diversity of course titles. The frequency with which titles are used by more than one provider is displayed in Table 2.

Table 2. Frequency with which course titles have been used by more than one provider

												TOTAL
Number of course titles involved	1	1	1	1	1	1	1	4	10	13	102	136
Frequency of use between providers	24	15	13	9	7	6	5	4	3	2	1	

From the above it can be calculated that the total number of courses offered by the 71 providers is 253. Of these, 75% have individual course titles and only 5% of the titles are shared by the five or more providers.

A list of the course titles shared by two or more providers is provided by Table 3.

Table 3. Course titles shared by two or more providers

Course Number	Course Title	Frequency of Use
(7)	One to one tuition in basic education	24
(1)	Literacy for people from NESB	15
(2)	Basic Maths	13
(28)	Basic English	9
(98)	Adult learning	7
(22)	One to one tuition:literacy	6
(6)	Basic writing and reading skills	5
(10)	Women's basic education	4
(38)	Literacy for mildly intellectually disabled adults	4
(89)	Road rules/Instruction for learner's permit	4
(100)	Adult learning for literacy	4
(12)	General basic education	3
(15)	Basic skills in English and Maths	3
(17)	General literacy	3
(20)	English as a second language	3
(25)	Bridging English	3
(30)	Literacy and numeracy for mildly intellectually disabled people	3
(69)	Aboriginal educators	3
(83)	Basic literacy and numeracy	3
(96)	English for migrants	3
(109)	Basic writing	3
(5)	Survival skills training	2
(8)	Reading and writing for work	2
(9)	English literacy	2
(26)	Bridging maths	2
(29)	Adult literacy and basic education	2
(33)	Spelling workshops	2
(35)	Literacy and numeracy for community integration	2
(51)	Lengths, measures and conversions in sewing	2
(57)	ALBE for pensioners and easy pace group	2
(68)	English conversation	2
(80)	Second chance reading skillshare	2
(87)	Driver education	2
(101)	Return to study	2

Note: All of the remaining 102 course titles have been used on only one occasion each.

Table 4. The number of courses offered by individual providers

Number of courses offered	1	2	3	4	5	6	7	11	14	TOTAL
Frequency	17	11	10	7	16	2	6	1	1	71

It can be seen that there is a bi-modal frequency distribution with the most common number of courses on offer being either one or five. The median frequency is 3.7. A detailed listing of the course titles offered by particular providers is supplied in Volume 2, Appendix C (ii).

In order to classify these courses in terms of their content, 9 broad topic classifications were devised as depicted in Table 5. Courses were categorised on the basis of either title, where that was explicit, or by examining the course objectives supplied by the providers (see Volume 2, Appendix C iii). As a consequence of this analysis, a detailed listing of the courses, by topic, is supplied in Volume 2, Appendix C (iv) and summarised by Table 5.

Table 5. Total number of curses offered within each of 9 broad topics
(See Appendix C (iv) in Volume 2)

	Course Topic	Number of Courses
AA.	General literacy	71
AB.	Literacy for target groups	39
AC.	Literacy for target interests	12
	TOTAL	122
BA.	General maths	19
BB.	Maths for target groups	1
BC.	Maths for target interests	2
	TOTAL	22
CA.	General education	47
CB.	Education for target groups	29
CC.	Education for target interests	33
	TOTAL	109

It can be seen that, of the total courses offered, approximately 48% are targeted specifically to literacy skills, 9% specifically to maths skills, and 43% to 'general' basic education involving both literacy and maths skills.

As might be expected, the educational pre-requisites for the courses are either non-existent (87%) or minimal (13%). The pre-requisites that are imposed are listed in Volume 2, Appendix C, Section (iv).

3.1.2 Student characteristics

Course statistics over the years 1986-1990 are presented in Table 6.

Table 6. Course statistics over the years 1986-1990

	1986	1987	1988	1989	1990
Number of providers	24	34	46	65	70
Number enrolled	724	878	1174	2828	2986
Number of hearing-impaired students enrolled	36	31	32	51	67

Note: The above figures exclude provider 65 because the huge number of enrolled students would severely bias the aggregate group statistics. Instead, these figures will be reported separately. In relation to the data above, the number of enrolled students from each year from 1986 - 1990 was 961, 1369, 1329, 1296, 1245.

The data in Table 6 indicate an increased number of providers and an increased enrolment over the past five years. However, this should not be taken to represent an actual increase in such numbers in Victoria over this period. The apparent increase is confounded by the sampling procedure; the figures relate only to current providers and not, therefore, to providers in earlier years which are no longer part of the ALBE service.

Of greater interest is the proportion of students with a hearing impairment. The percentages for each year from 1986 to 1990, calculated from Table 6, are 5.0%, 3.5%, 2.7%, 1.8%, 2.2%. It is evident that the last five years have witnessed a substantial decline in the numbers of such students relative to the overall student population.

Table 7. Distribution of students between course topics

Course Topic	All Students			Students with a Hearing Impairment			
	Number of Courses	Number of Students	Median Class Size	Number of Classes	Number of Students	Median Number per Class	Proportion of Hearing Impaired Students to all Students
AA	70	987	8	6	9	2	0.9
AB	33	422	9	4	20	3	4.7
AC	7	121	10	1	2	2	1.7
Total (%)		1530 (51)			31 (46)		
BA	17	120	6	3	11	3	9.2
BB	-	-	-	-	-	-	-
BC	2	32	16	-	-	-	-
Total (%)		152 (5)			11 (16)		
CA	43	801	8	7	9	1	1.1
CB	23	251	8	3	8	2	3.2
CC	21	252	11	3	8	1	3.2
Total (%)		1304 (44)			25 (37)		
TOTAL	216	2986		27	67		2.2

AA - General literacy; AB - Literacy for target groups; AC - Literacy for target interests
BA - General maths; BB - Maths for target groups; BC - Maths for target interests
CA - General education; CB - Education for target groups; CC - Education for target interests

Table 7 indicates the distribution of students between the course topics (for the detailed classification of courses see Volume 2, Appendix C iv). The number of courses involved in this survey (216) is less than the 253 reported in Table 2 reflecting the fact that a number of courses, offered in previous years, are not available in 1990.

The main points to be deduced from Table 7 are:

(a) The overall distribution of students between the three broad topics indicates a rough split between literacy (51%) and general (44%) with relatively few students enrolled in maths classes (5%). This distribution is approximated by the students with a hearing impairment. Around half (46%) are enrolled in literacy classes, with rather fewer (37%) enrolled in general education and maths (16%). This latter figure, however, is three-times higher than that for all students together.

(b) For all students, the majority of enrolments are in general courses (64%) rather than in courses for target groups (23%) or interests (13%). For the students with a hearing impairment, on the other hand, the is an even split between general (42%) and target group courses (42%), with a minor enrolment in target interest courses (15%). The target group course titles are as follows:

Course Title Number	Title
14	Adult literacy for the hearing impaired
10	Women's basic education/women's group
84	Work life integration studies
23	English and communication for deaf adults, migrants
24	English and communication for deaf adults
39	Literacy for independent living for mildly intellectually disabled adults
57	ALBE for pensioners and easy pace group

(c) The median number of students who are hearing impaired per class is substantially lower than the median for all students.

(d) On average, the students with impaired hearing comprised 2.2% of the total students. However, this proportion showed considerable variation between course topics, being highest for general maths (9.2%) and lowest for general literacy (0.9%).

Table 8. Composition of classes containing a student with impaired hearing

Course Topic	Total number of students/students with hearing impairment	TOTAL	% students with hearing impairment
AA	14/1, 4/1, 14/2, 100/2,	150/9	6
AB	10/2, 8/1	33/20	61
AC	13/13, 3/3, 3/3, 14/1 10/2	10/2	20
BA	16/3, †7/7, 8/1	31/11	35
CA	44/1, 18/2, 14/1, 7/1, 36/1,	143/9	6
CB	4/1, 20/2	57/8	14
CC	16/2, 36/4, 5/2 ‡6/6, §1/1, 25/1	32/8	25
TOTAL		456/67	mean = 14.7%

† Mastering maths ‡ Driver education § Road rules

A more detailed breakdown of the composition of each class containing a student with a hearing impairment is provided in Table 8. Here it can be seen that the least popular classes, in terms of the distribution of students with a hearing impairment, are those where such students are in a minority. Further evidence that these students tend to cluster is provided by the summary statistic for Table 8 which indicates that, within those classes containing a student with impaired hearing, such students comprise 14.7% of the total students present. This is over 6 times the proportion of 2.2% for the total programs in the survey (see Table 7).

As final evidence for this clustering, of the 67 students with a hearing impairment enrolled in courses covered by this survey, 33 (49%) were enrolled in classes which exclusively catered for such students (Table 8). From this it may be deduced that segregated classes are preferred by about half of the people with a hearing impairment who currently attend ALBE courses. This is consistent with the reference group interview data where respondents indicated a clear preference for involvement in classes with hearing-impaired or deaf peers. This issue will be considered later in regard to future service provision.

3.1.3 Reasons for failure to complete courses

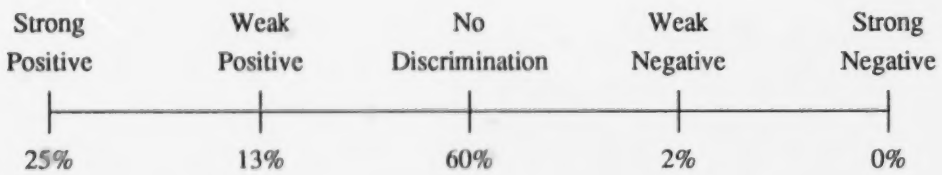
The reasons, supplied by providers, for students with impaired hearing to drop-out of the courses are summarised in Table 9 (details are provided in Volume 2, Appendix C (vi)). As might be anticipated, 40% of the reasons were explicitly based on communications problems. The remainder seemed to have little bearing on hearing impairment **per se**.

Table 9. Main reasons for hearing-impaired student failure to complete the course

Communication difficulties	4
Student motivation	2
Cultural difficulties	1
Moved from region	1
Intellectual disability	1
Unknown	1
TOTAL	10

3.1.4 Provider attitude to students with impaired hearing

Providers were asked to state the strength of their commitment to an affirmative action policy in relation to students with a hearing impairment. This was recorded on a five-point Likert scale as shown below. 52 (73%) of providers responded.



From this it may be seen that while the majority of respondents regarded their agency to have a non-discriminatory policy of admitting students with impaired hearing, over one-third stated their commitment to a positive affirmative action policy and one quarter stated this in strongly positive terms.

3.1.5 Staff qualifications and experience

Only 11 (15%) of agencies have a staff-member with formal qualifications in the area of hearing impairment. These qualifications are listed in Volume 2, Appendix C (vii) and summarised in Table 10.

Table 10. Formal staff qualifications in the area of hearing impairment

Name of Qualification	Number of Qualified Staff
Qualified Teacher of the Deaf	5
Allied Health Assistant Certificate	1
Grad. Dip. Spec. Ed.	1
Reading for Disabled Certificate	1
Signing Course (unspecified)	1
Other (unspecified)	2
TOTAL	11

It is likely that few of these qualifications would, of themselves, train people to be fluent in communication with people who are hearing impaired.

Rather more staff have informal experience with people who are hearing impaired, with 27 agencies (38% of respondents) answering positively. The nature of this experience is presented in Table 11 in summary form. For the more complete data list see Volume 2, Appendix C, Section (viii).

Table 11. Informal staff experience in the area of hearing impairment

Nature of Experience	Number of Programs with Experienced Staff
Work Experience	12
Family Members	7
Staff with Hearing Impairment	4
Friends	1
Unspecified	3
TOTAL	27

In terms of staff skills with sign language, 24 (34%) of agencies responded that a staff member was able to communicate using sign language. The professed level of skill is shown in Table 12. It is unclear from these responses as to whether these skills are specifically in Auslan or some other form of signed communication (e.g. PSE or signed English).

Table 12. Proficiency level of staff who are able to use ASL

Proficiency Level	N (%)
Totally fluent	4 (17)
Quite fluent	4 (17)
Slow but useful	8 (33)
Laborious	1 (4)
Very marginal	7 (29)
TOTAL	24 (100%)

As can be seen from Table 12, only 8 agencies have staff who profess fluency in sign language, a further 8 have staff with a useful but slow level of proficiency, while 8 others have staff professing a very marginal level of skill. Presumably only the first of these three categories would include staff who could effectively use signed communication in a in the teaching situation.

Only 4 agencies had ever engaged the services of an interpreter for students with a hearing impairment.

3.1.6 Special facilities held by agencies (other than staff)

The special facilities, to assist communication with people who are hearing impaired, held by the agencies, are listed in Appendix C (ix) and summarised in Table 13.

Table 13. Special Facilities held by the agencies

Type of Facility	Number of Agencies with Facility	Frequency of Use	Effectiveness
Audio-loop	3	Weekly	Very
Computer access	3	Daily/Weekly	Extremely/Very
TTY	2	Daily/Weekly	Extremely
Proper lighting	2	Daily	Extremely
Acoustic insulation	2	Daily/Weekly	Extremely/Very
Captioned video-tapes	1	-	-
Signing dictionary	1	-	-

It is apparent from Table 13 that few facilities specifically to assist the instruction of students with a hearing impairment are available within the agencies. The facilities that are available, however, are frequently used and judged to be effective.

3.1.7 Special facilities judged to be useful

Each provider was asked "What special facilities /arrangements are believed to be necessary to accommodate hearing impaired students". Their responses are detailed in Volume 2, Appendix C (x) and summarised in Table 14.

Table 14. Knowledge of special facilities/arrangements for students with a hearing impairment

Facility/Arrangement	Number of Providers	
	N	(%)
Specialist staff in sign language	15	(21)
Acoustic screening	8	(11)
Interpreters/note takers	6	(8)
Positioning of student re teacher and/or class	5	(7)
Proper lighting	3	(4)
Audio loop	3	(4)
Computer access	3	(4)
Captioned videos	2	(3)
Teachers without a heavy beard or moustache	2	(3)
TTY	1	(1)

It would appear that the general level of knowledge regarding special facilities and arrangements among agency staff is extremely limited. Not only are many of the entries in Volume 2, Appendix C (x) either irrelevant or not specific to hearing impairment, but the percentages

recorded in Table 14 are low. For example, only 11% mentioned some form of acoustic screening, 7% positioning the student with respect to the teacher, 4% proper lighting and audio loops, and 1% a TTY.

3.2 The reference group interviews

3.2.1 General demographic characteristics

3.2.1.1 Gender, age and mobility

The reference group consists of 100 people divided approximately equally on gender (49% male; 43% female). Their median age is 35.9 years and their age distribution can be seen in Table 15.

Table 15. Age distribution of the reference group

Age (years)	N	(%)
< 20	8	(8)
21-30	20	(20)
31-40	27	(27)
41-50	21	(21)
51-60	9	(9)
> 60	14	(14)
TOTAL	99	(100)

In terms of their marital status, 59% are currently married, 4% divorced or separated, and 38% have never married.

Their place of residence is set out in detail in Volume 2, Appendix D (i). While most have been drawn from metropolitan Melbourne (79%) the remainder live in Geelong (12%), Country Victoria (8%) and Perth (1%). Their duration of residence at their current address, together with the duration and place of previous residence (if moved within the past 5 years) are presented in Table 16.

Table 16. Duration at Place of Residence

Duration	Duration at current address		Duration[a] at previous address		Previous place of residence[a] (%)
	N	(%)	N	(%)	
< 6 months	5	(5)	2	(10)	Melbourne (79%)
1 year	7	(7)	4	(20)	Rural Victoria (11%)
2 years	9	(9)	3	(15)	Geelong (7%)
5 years	11	(11)	1	(5)	Other State (4%)
> 5 years	65	(67)	10	(50)	
TOTAL	97	(100)	20	(100)	

a = For those people who have lived at their current address for less than 5 years.

It can be seen that this is generally a residentially stable group with 87% having lived at their current address for at least 2 years, and 76% for at least 5 years. Moreover, of the 20% who have moved within the last 5 years, over half (55%) lived at their previous residence for 5 years or more.

3.2.1.2 Employment

The employment status of the reference group is provided in Table 17. It can be seen that while three people are listed as being in 'white-collar' employment, all expressed some difficulty with their level of literacy and so have been included in the reference group. Those with 'skilled' employment included mainly artisans and a few trades-people. Of specific interest is the high rate of unemployment among this group (i.e. 24%). This rate is more than four times the current unemployment rate for Victoria of 5.3% (ABS Information Services, 1990). It is not clear from these results as to what role the low literacy levels of this group may play in this situation but it seems likely that this is one of a number of contributing factors.

Table 17. Employment status of the reference group

Status	Frequency	
	N	(%)
White Collar	3	(3)
Skilled	41	(42)
Unskilled	17	(17)
Self Employed	2	(2)
Home Duties	5	(5)
Retired	7	(7)
Unemployed	23	(24)
TOTAL	98	(100)

A total of 26 people were claiming some form of social security benefit. (The details are listed in Volume 2, Appendix D (iii).)

3.2.1.3 Use of transportation

The normal method of transportation used by the reference group is presented in Table 18. The majority of people use their own vehicle to travel to work (where this is relevant, 70%) and for other purposes (78%). The remainder tend to use public transport (24% and 18% respectively). Hence, it can reasonably be assumed that there are no significant transport or mobility barriers to attendance at appropriately located ALBE classes for most of this group.

Table 18. Normal method of transportation

Method	To work		Other than to work	
	Frequency		Frequency	
	N	(%)	N	(%)
Own vehicle	44	(44)	74	(78)
Public transport	15	(15)	17	(18)
Taxi			1	(1)
Friend's vehicle	1	(1)	3	(3)
Other	3	(3)		
N/A	36	(36)		
TOTAL	99	(100)	95	(100)

3.2.2 Characteristics of the hearing impairment

Table 19. Age at which hearing impairment occurred

Age	Frequency	
	N	(%)
At birth	70	(70)
< 2 years	13	(13)
< 5 years	8	(8)
< 10 years	2	(2)
> 10 years	7	(7)
TOTAL	100	(100)

Over four-fifths (83%) of the group were deaf before the onset of speech and only 7% acquired their deafness after 10 years of age.

Table 20. Progression of the hearing impairment over the past 5 years

Progression	Frequency	
	N	(%)
No change	86	(89)
Slight	6	(6)
Moderate	1	(1)
Severe	4	(4)
TOTAL	97	(100)

Most of the group had experienced no change in their hearing impairment over the past five years (89%) and only 4% had experienced a severe deterioration.

Table 21. Other impairments

Nature of the Impairment	Frequency	
	N	(%)
Visual	5	(5)
Orthopaedic	1	(1)
Cerebral Palsy	4	(4)
None	90	(90)
TOTAL	100	(100)

Only 10% had other impairments. Of these, 5% were visually impaired, 4% had cerebral (or other) palsy, and 1% had an orthopaedic handicap. (Further details of these disorders can be found in Volume 2, Appendix D (iv).)

3.2.3 Modes of communication

3.2.3.1 Used and preferred modes of communication

The modes of receptive communication used and preferred by the reference group are presented in Tables 22 to 24.

Table 22. Respondents reporting the ability to use each receptive communication mode (N=100)

Mode of Communication	N	(%)
Oral (listening/lipreading)	59	(59)
Cued speech	4	(4)
Auslan	74	(74)
Fingerspelling	47	(47)
Signed English/PSE	56	(56)

N.B. Responses total greater than 100 as most respondents indicated the ability to use more than one mode of communication receptively (see Table 24 for the actual combinations of communication mode recorded).

Table 23. Preferred mode of receptive communication

Mode of Communication	N	(%)
Oral (listening/lipreading)	24	(26)
Cued speech	1	(1)
Auslan	53	(54)
Fingerspelling	3	(3)
Signed English/PSE	17	(17)
TOTAL	98	(100)

By far the most used and preferred mode of receptive communication is Auslan (74% and 54% respectively). While other forms of communication are in common use, they are less commonly preferred. Oral speech can be used by 59% but is preferred by only 26%, a similar proportion to those who use signed English (56% and 17% respectively). However, while almost half of the group are able to use fingerspelling (47%) very few use it as a preferred mode (3%). This is not surprising given the low literacy levels of these people. Finally, very few were able to employ cued speech and only one person used it as a preferred mode.

The detailed combinations of receptive communication modes actually used by the reference group are shown in Table 24.

Table 24. Modes of receptive communication used (all combinations)

Mode of communication	Frequency	
	N	(%)
ORAL	9	(9)
OCUE	2	(2)
AUSL	6	(6)
ENGL	-	
FING	1	(1)
ORAL + OCUE	-	
ORAL + AUSL	13	(13)
ENGL	6	(6)
ORAL + FING	1	(1)
AUSL + ENGL	6	(6)
AUSL + FING	8	(8)
ENGL + FING	3	(3)
ORAL + AUSL + ENGL	10	(10)
ORAL + AUSL + FING	3	(3)
ORAL + ENGL + FING	3	(3)
AUSL + ENGL + FING	14	(14)
ORAL + AUSL + ENGL + FING	12	(12)
ALL	2	(2)
TOTAL	99	(100)

Key
OCUE = Oral, cued speech
AUSL = Auslan
ENGL = 'English like' signing/PSE
ENGS = ENGL + speech
FING = Fingerspelling

The modes of expressive communication used and preferred by the reference group are presented in Tables 25 to 27.

Table 25. Respondents reporting the ability to use each expressive communication mode (N=109)

Mode of Communication	N	(%)
Speech	43	(43)
Cued Speech	2	(2)
Auslan	77	(77)
Fingerspelling	37	(37)
Signed English/PSE	42	(42)

N.B. Responses total greater than 100 as most respondents indicated the ability to use more than one mode of communication expressively (see Table 27 for the actual combinations of communication mode recorded).

Table 26. Preferred mode of expressive communication

Mode of Communication	N	(%)
Speech	21	(23)
Cued Speech	-	
Auslan	54	(58)
Fingerspelling	12	(13)
Signed English/PSE	6	(6)
TOTAL	93	(100)

Auslan again dominates both as the most used (77%) and most preferred (58%) form of expressive communication. This is followed by oral speech (43% and 23% respectively), with the other forms falling considerably behind. While signed English (42%) and fingerspelling (37%) can be used by over one third of the sample, very few prefer either as their mode of communication (6% and 13% respectively). Cued speech is only used by 2% and preferred by none.

The detailed combinations of expressive communication modes actually used by the reference group are shown in Table 27.

Table 27. Modes of expressive communication used (all combinations)

Mode of communication	Frequency	
	N	(%)
Speech (SPCH)	13	(13)
Cued Speech	-	
AUSL	19	(19)
ENGL	2	(2)
FING	1	(1)
SPCH + ENGL	2	(2)
SPCH + AUSL	15	(15)
AUSL + ENGL	9	(9)
AUSL + FING	9	(9)
ENGL + FING	4	(4)
SPCH + AUSL + ENGL	2	(2)
AUSL + ENGL + FING	12	(12)
SPCH + AUSL + ENGL + FING	9	(9)
ALL	2	(2)
TOTAL	99	(100)

Table 28. Communication aids used

Type of Aid	Normal Aid Frequency N	(%)	Useful in a group situation							
			Yes		No		Don't Know/ Never Used		TOTAL	
None	52	(52)								
Hearing aid	48	(48)								
Radio frequency	-		5	(5)	15	(16)	74	(79)	94	(100)
Loop system	-		9	(9)	17	(18)	71	(73)	97	(100)
TOTAL	100	(100)								

Over half of the sample use no type of hearing-aid (52%), and while only about one quarter have experience with either radio frequency or loop systems, few have found such systems to be useful in group situations. Of those with appropriate experience only 24% found radio frequencies to be useful and 35% found loop systems to be useful.

Table 29. Use of telephone

	Yes		No		TOTAL	
Ability to use telephone	80	(83)	17	(18)	97	(100)

Aids that users find useful	Yes	
TTY	59	(62)
Telecoil/Loop		
Telephone coupler	1	(1)
Volume control	2	(2)
TTY + Volume	5	(5)
TTY + Coupler + Volume	3	(3)
None: Not a user	26	(27)
TOTAL	96	(100)

Note: The 'Aids that users find useful' can be interpreted in relative terms only since it is not known how many of the users were familiar with the devices listed.

Almost one fifth of the sample were unable to use the telephone; a statistic which is almost certainly related to literacy skills, since by far the most useful aid in telephone use is the TTY.

Table 30. Use of TV

	Yes		No		TOTAL	
Do you watch TV?	98	(98)	1	(1)	99	(100)

Aids that users find useful	Yes	
Caption decoder (CAPT)	71	(72)
Coupler	1	(1)
Loop[a]	1	(1)
CAPT + Loop	4	(4)
CAPT + Loop + Others	1	(1)
None	20	(20)
TOTAL	98	(100)

[a] Uses a 'T' switch

While almost all of the group watch television, almost one fifth do not find any of the relevant aids to be useful.

Table 31. Experience with interpreters

	Yes		No		TOTAL	
Have used an interpreter	84	(85)	15	(15)	99	(100)

Type of communication used by interpreter	Yes	
Oral communication	5	(7)
Auslan	37	(50)
Signed English (SE)/ Finger Spelling (FS)	17	(23)
Auslan + SE/FS	10	(14)
Oral + SE/FS	2	(3)
Oral + Auslan + SE/FS	2	(3)
TOTAL	73	(100)

Type of interpreter	Yes	
Professional	22	(26)
Other	20	(24)
Both	42	(50)
TOTAL	84	(100)

Table 31. Experience with interpreters (continued)

Most common provider of "non professional" service	Yes	
Hearing family member (FM)	26	(43)
Hearing friend (HF)	8	(13)
Church, social group	2	(3)
Hearing impaired person	9	(15)
FM, HF	15	(25)
TOTAL	60	(100)

Most of the group have had experience with interpreters (85%) and of these their preferred mode of communication is Auslan either alone (50%) or in combination (17%). This is in accordance with data presented in 3.2.3.1 on preferred mode of receptive communication. A far lower proportion of people have experience with other modes of interpreter communication (signed English 23%, oral speech 7%). Only about one quarter of the group have experienced professional interpreters due, no doubt, to the costs involved. Appendix 100 provides a list of the funding source used for professional interpreters which is strongly dominated by the Victorian Deaf Society (73%).

Most commonly, "non-professional" interpreting services are supplied by family members or friends as indicated in Table 32. The family members most involved in this service are listed in Appendix 100 which resolves to the following: Siblings (31%), parents (29%), own children (23%), spouse (11%) and other (6%). Other sources of non-professional interpreters are listed in Appendix 100 which, with limited data, indicates a preference for using other people who also have a hearing impairment (60%).

Table 32. Methods of communication used with hearing people

Method	At work		With strangers	
	N	(%)	N	(%)
Speech	19	(19)	32	(33)
Writing	1	(1)	23	(24)
Gesture	1	(1)	3	(3)
Speech + writing	16	(16)	13	(13)
Speech + gesture	2	(2)	5	(5)
Speech, finger spelling	1	(1)	-	
Writing, gesture	13	(13)	16	(16)
Writing, finger spelling	2	(2)	-	
Gesture, finger spelling	1	(1)	-	
Speech, writing, gesture	2	(2)	5	(5)
Speech, writing, finger	2	(2)	-	
Writing, gesture, finger	2	(2)	1	(1)
All	1	(1)	-	
N/A	35	(36)	-	
TOTAL	98	(100)	98	(100)

Communication with hearing people is clearly a problem for many people in the sample. While only 23% use speech as a preferred mode of expressive communication (section 3.2.3.1), 43% use speech either alone or in combination to communicate at work and 56% to communicate with strangers. Moreover, even though writing is a problem for most of this group, 39% use it for communication at work and 59% for communication with strangers.

3.2.4 Social interaction and information source

3.2.4.1 Hearing impairment in the family

The extent to which the family environment has provided direct contact with other people who are deaf/hearing impaired is presented in Table 33.

Table 33. Relatives who are deaf/hearing impaired and language in the parental home

Relative	Frequency	
	N	(%)
Parent only	3	(3)
Sibling only	6	(6)
Spouse only	9	(9)
Other relative only	10	(10)
Parent + other	9	(9)
Other combination	7	(7)
None of the above	56	(56)
TOTAL	100	(100)

Language in home	Frequency	
	N	(%)
English	79	(79)
Auslan	8	(8)
Other oral language	10	(10)
Sign language	2	(2)
English + Auslan	1	(1)
TOTAL	100	(100)

It can be seen that while almost half had contact with other family members who were deaf or hearing impaired, including 18% involving parents or siblings, only 11% had used some form of sign language in their parent's home. All of the remainder used an oral language, either English (79%) or some other (10%). Clearly, for most of these people, the language of their parental home was not their most preferred mode of communication.

3.2.4.2 Membership of clubs and organisations

In terms of their social contacts, the great majority (85%) are a member of organisations or clubs for hearing impaired people, while only 31% are members of other organisations or clubs. Clearly a majority of the total group restrict their membership of organisations or clubs to those which cater exclusively to deaf and hearing-impaired people.

Table 34. Membership of organisations catering exclusively for people who are hearing impaired

Organisation	N	(%)
Deaf Society/Jolimont Social Club	22	(22)
Regional Deaf Club	25	(25)
Catholic Association of Deaf	22	(22)
Deaf Sports Group	4	(4)
Better Hearing	10	(10)
Earforce	7	(7)
Other	8	(8)
None	15	(15)
TOTAL	†	†

† These figures are based on 97 respondents. Joint membership makes both total numbers and percentage exceed 97 and 100 respectively.

Tabie 35. Membership of other organisations

Organisation	N	(%)
Sports group	21	(21)
Church group	2	(2)
Other	8	(8)
None	69	(69)
TOTAL	100	(100)

3.2.4.3 Sources of information on current affairs

Table 36. Sources of information on current affairs

Source	Used		Single most preferred	
	N	(%)	N	(%)
Radio (R)	-		1	(1)
TV	4	(4)	19	(25)
Newspaper/Magazine (N)	9	(9)	52	(58)
Friends (F)	-		3	(4)
Teletext (TX)	1	(1)	2	(3)
TV + N	22	(22)		
TV + F	3	(3)		
TV + N + F	19	(19)		
TV + N + TX	6	(6)		
TV + N + F + TX	20	(20)		
N + F	3	(3)		
N + F + TX	4	(4)		
N + TX	3	(3)		
R + TV + N	1	(1)		
R + TV + N + F + TX	2	(2)		
TOTAL	98	(100)	77	(100)

Current affairs are mainly presented in either aural or written modes. So despite the literacy problems experienced by this group, their preferred single source of such information is derived from written material (71%), being comprised of newspapers/magazines (68%) and Teletext (3%). Moreover, while Teletext is rarely used alone for this purpose, it is used by 34% in combination with other sources.

3.2.5 Educational History

3.2.5.1 Place of education

Table 37. Location of primary and secondary education

Location	Primary		Secondary	
	N	(%)	N	(%)
None	-		35	(37)
Deaf school signing (SIGN)	47	(47)	15	(16)
Deaf school oral (ORAL)	27	(27)	15	(16)
Reg. school + VTS (VTS)	3	(3)	16	(17)
Reg. School (no support) (REG)	12	(12)	11	(12)
SIGN + VTS	1	(1)	-	
SIGN + REG	2	(2)	-	
ORAL + VTS	7	(7)	2	(2)
ORAL + REG	1	(1)	-	
TOTAL	100	(100)	94	(100)

For their primary schooling most people attended a school exclusively for children with a hearing impairment (74%). Of those attending regular schools, 11% experienced the Visiting Teacher Service while the remaining 15% had no specialist support.

Only 63% of the group progressed to secondary school and again, of these, the majority attended schools for children with impaired hearing only (51%). Of the remainder, 31% attended regular schools with support from the Visiting Teacher Service and 19% had no specialist support.

3.2.5.2 Level of education

Table 38. Highest level of education attained

Level	Frequency	
	N	(%)
< Grade 6	29	(29)
Grade 7-10	37	(37)
Grade 11-12	12	(12)
Do not know	21	(21)
TOTAL	99	(100)

As expected from the selection process for the sample, only 12% progressed beyond Grade 10.

3.2.5.3 Satisfaction with education

In answer to the question 'Were you satisfied with the education you received at school', 67% responded in the negative and 33% responded positively (N=99). The areas in which their education was seen to have been inadequate are recorded in detail in Volume 2, Appendix D (viii). Comments can be roughly categorised into the following overlapping statements:

- The level of teaching was too low (N=42).
- Teacher's were inadequately trained with a poor understanding of student's needs (N=19).
- Poor teaching (N=11).
- Poor teacher attitudes (N=7).
- Personal difficulties (N=6).
- Over-emphasis on speech training (N=5).
- Lack of specialist support (N=3).

Most clearly indicated from these data is dissatisfaction with the level of teaching which was recalled as being repetitive, boring, insufficiently challenging, and irrelevant. The other major indication was that the teachers were not meeting the students' needs in relation to the communication process. This was not confined to oral-only teachers, but also involved teachers who used a non-preferred method of communication.

3.2.6 Social barriers created by educational deficits

3.2.6.1 Barriers created by literacy deficits

Table 39. Barriers created by literacy deficits

Nature of the barrier	Yes		No		N/A		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)
Difficulty in gaining driver's licence	37	(37)	55	(55)	8	(8)	100	(100)
Barrier to gaining employment or higher-paid employment	54	(55)	43	(44)	1	(1)	98	(100)
Limited opportunities for promotion	26	(26)	29	(29)	45	(45)	100	(100)

Around half of people with relevant experience felt that their literacy deficits had caused them difficulty in gaining a driver's licence, in gaining employment and in gaining promotion.

Table 40. Extent of difficulty in specific areas of literacy

Activity	Completely unable		Major difficulty		Minor difficulty		No difficulty		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Reading household accounts	1	(1)	4	(4)	21	(21)	73	(74)	99	(100)
Reading instructions on household appliances	5	(5)	21	(21)	35	(35)	38	(38)	99	(100)
Reading medical information	5	(5)	25	(25)	31	(31)	38	(38)	99	(100)
Reading/filling out government/other forms	10	(10)	25	(26)	30	(31)	33	(34)	98	(100)
Reading financial information (banking)	6	(6)	19	(19)	32	(33)	41	(42)	98	(100)
Reading newspapers	3	(3)	12	(12)	31	(31)	54	(54)	100	(100)
Use of TTY	4	(5)	3	(4)	11	(13)	65	(78)	83	(100)
Use of Captions (TV)	3	(3)	4	(5)	18	(21)	61	(71)	86	(100)

While few people were completely unable to perform the range of literacy dependant activities listed above, around 20% experienced a major difficulty and less that half experienced no difficulty. The task that presented the most difficulty was reading/filling out forms, and the one that presented least difficulty was reading household accounts.

3.2.6.2 Barriers created by mathematical deficits

Table 41. Barriers created by mathematical deficits

Nature of the barrier	Yes		No		N/A		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)
Barrier to gaining employment or higher-paid employment	34	(35)	64	(64)	-		98	(100)
Limited opportunities for promotion in current employment	10	(10)	45	(45)	45	(45)	100	(100)

The problems created by mathematical deficits, while substantial, are less than those recorded for literacy deficits. Section 3.2.6.1 (literacy deficits) determined a 'Yes' response of 55% to 'Barriers to employment' compared with a 35% response here. Similarly, while 26% felt that their literacy skills had limited their promotional opportunities, only 10% felt this way about their mathematical skills.

Table 42. Extent of difficulty in specific areas of numeracy

Activity	Completely unable		Major difficulty		Minor difficulty		No difficulty		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Day-to-day money usage (e.g. shopping)	-		2	(2)	6	(6)	92	(92)	100	(100)
Managing household finances/accounts	-		4	(4)	15	(15)	79	(81)	98	(100)
Banking	3	(3)	6	(6)	13	(13)	78	(78)	100	(100)

As with the previous Table, far fewer people responded that their mathematical skills impeded their performance of normal daily activities than was the case for literacy skills. Whereas in relation to literacy skills around 20% experienced a major difficulty, only around 5% report this in relation to their mathematical skills. A similar difference is noted in relation to those people reporting 'no difficulty', with the proportions being around 50% and 80% respectively.

3.2.6.3 Personal assessment of educational adequacy

Table 43. Personal assessment of literacy/numeracy skills

Skill area	Adequate: No need for change		Adequate: Would like to improve		Inadequate: No desire for change		Inadequate: Would like to improve		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Literacy	21	(21)	43	(53)	-		26	(26)	100	(100)
Numeracy	32	(33)	53	(44)	-		23	(24)	98	(100)

While only about one quarter of the sample regarded their literacy and numeracy skills as inadequate, a further 50% expressed a need to improve their skills. When asked 'why?', 56% responded that they wish to improve their English and only 6% to improve their Maths.

3.2.7 Experience with and attitude towards Adult Education

3.2.7.1 Extent of experience

Table 44. Extent of experience with adult education

	Yes		No		TOTAL	
	N	(%)	N	(%)	N	(%)
Has attended classes to improve maths or literacy skills	22	(22)	78	(78)	100	(100)
• for deaf people only	4					
• regular classes	9					
Has attended other Adult Education classes	32	(32)	68	(68)	100	(100)
• for deaf people only	5					
• regular classes	19					

Only about one fifth of the group has attended classes to improve their maths or literacy skills, and about one third have attended other adult education classes. In each case, more people had attended regular classes than classes for deaf people only, a result which is likely influenced by the greater availability of the former.

The people who had attended such classes were asked their reasons for attending. The responses from people who attended to improve their literacy or maths skills are listed in Volume 2, Appendix D (ix). Of the 18 comments that were recorded, 10 referred to a desire to improve their English and two to improve their communication abilities, whereas only one referred specifically to a desire to improve mathematical ability. Three people referred to a desire to increase their prospects of employment.

The reasons people gave for attending other types of adult education classes are listed in Volume 2, Appendix D (x). Of the 26 responses that were recorded, 13 referred to increasing employment opportunities and 12 to personal interest.

3.2.7.2 Estimates of success and problems encountered

Table 45. Estimates of successful experience with adult education and problems encountered

	Yes		No		TOTAL	
	N	(%)	N	(%)	N	(%)
Estimated success of experience	30	(81)	7	(19)	37	(100)
People encountering problems	29					
Nature of problems encountered	N					
Communication difficulties	29					
Staff attitudes	10					
Family/friend attitude	2					
Insufficient time	4					
Course not appropriate	4					
Child care difficulties	0					
Transportation problems	2					
Availability of support services (e.g. interpreters)	11					
Quality of support services (e.g. interpreters)	4					
Other problems	4					

While the great majority of people who had attended adult education programs regarded them as having been a successful experience (81%), 78% also encountered problems dominated by communication difficulties. The other major problem was attributed to staff attitudes.

The reasons for the communication difficulties are presented in Volume 2, Appendix D (xi). As might be anticipated, the comments indicate either a lack of understanding on behalf of the tutor about how best to communicate to students with a hearing impairment, or a lack of specialist resources.

3.2.7.3 Estimated interest and support requirements

Table 46. Preferred areas of interest (N=84)

Area of Interest	N	(%)
English (reading/writing)	26	(26)
Maths	2	(2)
Social studies (Civics)	3	(3)
Speech/Language (spoken English)	2	(2)
English + Maths	22	(22)
English + Social	3	(3)
English + Speech	2	(2)
English + Maths + Speech	3	(3)
English + Maths + Social	5	(5)
Maths + Social	2	(2)
All	7	(7)
Other	4	(4)
None	19	(19)
TOTAL	100	(100)

As can be seen from the above table, and consistent with other data from this survey, the major area of interest is in improving literacy skills. This was nominated alone by 26% of respondents and in combination with other subject areas by a further 44%. In contrast, maths was nominated alone by 2% and in combination by 39%.

While only 4% of respondents nominated 'other area of interest' alone, 26% of respondents nominated another area of interest, (these are all listed in Volume 2, Appendix D (xii)). A very wide range of interest are apparent.

Table 47. Level of interest and support requirements

"If you were going to take an Adult Literacy or Basic Education course, would you enrol in an existing program if appropriate support (e.g. interpreter, tutor, etc.) was made available?"

	Definitely No	Probably No	Don't Know/ Uncertain	Probably Yes	Definitely Yes
N	9	4	15	30	40
(%)	(9)	(4)	(15)	(31)	(41)

Total N = 98

The response to this question was generally positive with 72% of respondents indicating that they would be interested in undertaking such a course.

In response to the query as to what kinds of support they would require in order to participate in a program, the frequency of responding was as set out below. Clearly, the major perceived need is for an interpreter (71%) followed by a special extra tutor (45%) and a notetaker (29%). Only 11% nominated special listening devices.

Support Requirements	(%)
Interpreter	71
Special extra tutor	45
Note taker	29
Special listening devices	11
Nothing	1
Other	11

Table 48. Caveats on the likelihood of enrolling

Caveat	Likelihood of Enrolling											
	Definitely No		Probably No		Don't Know/ Uncertain		Probably Yes		Definitely Yes		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
If you were the only deaf/hearing impaired person in the class	28	(29)	17	(18)	7	(7)	23	(24)	21	(22)	96	(100)
In a special program designed for deaf/ hearing impaired people	5	(5)	4	(4)	3	(3)	39	(40)	46	(47)	97	(100)

Caveat	More Likely		Less Likely		Neither/ No Difference		TOTAL	
	N	(%)	N	(%)	N	(%)	N	(%)
Deaf/hearing impaired teachers employed	74	(79)	9	(10)	11	(12)	94	(100)
Teachers used Auslan	62	(69)	21	(23)	8	(9)	92	(100)
Hearing teachers employed	19	(21)	32	(35)	41	(45)	92	(100)
Teachers used signed English	22	(24)	38	(42)	31	(34)	91	(100)

When asked whether they would be likely to attend if they were the only deaf/hearing-impaired person in the class, 47% answered in the negative. When asked if they would be likely to attend if a special program was to be arranged for deaf/hearing-impaired people the response was overwhelmingly positive (87%).

The particular other factors which were recorded as making it more likely that they would attend were the use of deaf/hearing-impaired teachers and the use of Auslan.

Table 49. Attitudes towards adult education

RELEVANCE (N = 96)

	Very irrelevant	Somewhat irrelevant	Don't Know/ Uncertain	Somewhat relevant	Very relevant
N	6	4	9	27	50
%	(6)	(4)	(9)	(28)	(52)

INTEREST (N = 96)

	Very irrelevant	Somewhat irrelevant	Don't Know/ Uncertain	Somewhat relevant	Very relevant
N	6	2	8	33	47
%	(6)	(2)	(8)	(34)	(49)

NECESSITY (N = 96)

	Very irrelevant	Somewhat irrelevant	Don't Know/ Uncertain	Somewhat relevant	Very relevant
N	2	2	11	27	54
%	(2)	(2)	(12)	(28)	(56)

In general the people surveyed held a positive view of adult education. As a group they regarded it as relevant (80%), interesting (83%) and necessary (84%). Their knowledge of programs was, however, fairly low as can be seen below. 60% of the respondents had no knowledge of any current programs while only 30% had knowledge of the preferred option, programs designed exclusively for people with a hearing impairment.

3.2.8. Knowledge of current adult education options

Table 50. Knowledge of current adult education options

Extent of Knowledge	Yes	
	N	(%)
No knowledge	56	(60)
Knowledge of regular programs	10	(11)
Knowledge of deaf programs	16	(17)
Knowledge of both regular and deaf programs	12	(13)
TOTAL	94	(100)

4. DISCUSSION

4.1 The provider perspective

While there has been a modest increase in the absolute number of students with impaired hearing enrolled in ALBE courses over the past five years, as a proportion of the total student population covered by this survey their numbers have shown a marked decline. This may seem a surprising finding given the expression of interest in such courses by potential students (Table 49) and the generally positive attitudes to student enrolment expressed by the providers (Section 3.1.4). However, one explanation may be tied to the very low level of mutual awareness between potential students and the providers; an issue which will be explored more fully later.

As a proportion of current (1990) enrollments, students with impaired hearing represent 2.2% of the total student population surveyed. It should be noted that providers were requested to report the presence of all students with impaired hearing regardless of degree of impairment or communication preference. Therefore, this proportion can be compared with the initial population estimate of 3.6% for people with any degree of hearing impairment (Cameron, 1982). Clearly, this comparison would indicate a considerable under-representation of this group in the ALBE programs surveyed. Given the introductory discussion and the significantly increased likelihood for this population to be experiencing literacy difficulties there is evidence of a substantial unmet need for ALBE services within this group. This is clearly supported by the results of the reference group interviews.

Particularly surprising is the finding that, on a proportional basis, students with impaired hearing are over-represented in courses targeted toward the development of numeracy and mathematics skills (see Section 3.1.2). This is in direct contrast to the needs identified by the reference group who identified the area of literacy (particularly document literacy) as the main priority. Three reasons for this discrepancy seem possible. The first is a possible bias in the sample given the small number of students with impaired hearing who were actually involved in the programs surveyed. The second is the possibility that students are preferentially enrolling in courses which complement their existing skills rather than courses which exemplify their lack of skills in the area of literacy. The third is the possibility that current ALBE services are simply unable to offer staff and programs which are appropriate to the curriculum and (more importantly) the communication requirements of this group. Limited communication may be sustainable in programs focussing on numeric or other mathematical skill areas but may prove intolerable to students when the focus of the course is on the development of language and literacy skills. This final explanation is in part supported by the data on group size and drop-out rate.

The data from tables 7 and 8 indicate that students with impaired hearing are most likely to be located in ALBE classes with a smaller than average group size and that they tend to aggregate in such classes. Consistent with this is a preference for such students to attend specially designed programs or classes. This is entirely consistent with the data from the reference group interviews and reinforces the possibility that effective communication (both with tutors and peers) would appear to be a significant factor in student decisions to enrol (or to remain) in ALBE classes. This is further corroborated by the finding that the main reason offered for students discontinuing a course was "difficulties with communication" (see Table 9). This evidence warrants careful consideration in regard to Conclusions "5", "6" and "7" and Recommendation "6".

The need to recognise student communication preference in the planning and implementation of ALBE programs will be considered in detail in the next chapter. However, several issues warrant attention in regard to access to current service provision. As already indicated, current involvement of people with impaired hearing in ALBE programs would tend to indicate an under-representation of this group. The results of the provider interviews would further suggest that this shortfall of service is likely to be most significant in regard to those sections of the hearing-impaired population which are likely to experience the greatest need for such services. That is, the more severely impaired and those for whom Auslan (or other manual communication mode) is the preferred means of communication. Three aspects of the provider data support this view.

First, while 27 of the 70 agencies reported contact with hearing-impaired students , only four (6%) reported that they had ever engaged the services of an interpreter for the Deaf. Similarly, only four (6%) services responded that a staff member was fluent in the use of sign language. These findings would tend to indicate that the majority of students who are currently receiving service are those with lesser degrees of impairment and/or those for whom oral communication is an available mode of communication. Alternatively, these results would suggest that many students are currently only gaining limited access to their classes. Results of the reference group interviews would tend to support the conclusion that the signing section of this population (and,in particular, the Deaf Community) are actually under-represented in the group that is currently receiving ALBE services. Second, of the 27 agencies that reported contact with hearing-impaired students, only 6 agencies reported that they employed staff with a qualification directly relevant to the provision of services for people with impaired hearing. This suggests that, for the majority of programs reporting participation by hearing-impaired students, the students have been incorporated readily into existing programs with little or any specialist support or alternative communication arrangements.

The third aspect of the results which tends to support the conclusion that there is currently only minimal participation by more profoundly hearing impaired and Deaf people (i.e. sign language users) is the relatively low level of awareness and understanding of the special requirements for

these sections of the population. Table 14 reports on the response of providers to this question and indicates an extremely low level of understanding regarding general requirements and the specific needs of the latter group. "Interpreters" and "specialist skills in sign language" were mentioned by only 6% and 21% of providers respectively. In regard to provision for more profoundly impaired orally communicating adults, only 4% mentioned the use of auditory equipment (i.e. audio loop) and only 5% indicated awareness of specific classroom communication considerations such as lighting and control of background noise. Surprisingly, only 3% of providers mentioned the use of Telephone Typewriters (TTY's) or captioned television (N.B. other implications of this lack of awareness and information are considered in sections 5.1.3.1 and 5.1.4 and in Recommendation 5). If people with profound impairments and/or those who use sign language (i.e. the Deaf Community) were proportionally represented across thoseservices that reported the enrollment of hearing-impaired students then it would be expected that all of these agencies would have identified these considerations. It can be concluded therefore, that the majority of contact with people with impaired hearing reported by providers in this sample has been with people with relatively mild impairments and or those with good access to oral communication skills.

While there is an apparent overall shortfall in the provision of ALBE services for people with impaired hearing there would appear to be a particular unmet need in regard to those people with more profound impairments and those for whom sign language (Auslan) is the preferred mode of communication. This conclusion is supported by analysis of the reference group data in the following sections.

In terms of their attitude to enrolling students with impaired hearing, the providers are divided, with around one-third expressing a positive view and two-thirds a neutral view. However, in reality it is clear that very few providers actually have the current capacity to deal effectively with such students - particularly those students with significant communication difficulties or alternate language systems such as Auslan. The issue of more effectively catering for the ALBE needs of all groups within the population of people with impaired hearing will be considered in the next chapter.

Conclusion:

Based on this survey of providers, there is an apparent under-representation of people with impaired hearing in current ALBE services. This is most apparent in regard to people with significant oral communication difficulties and Deaf people whose preferred mode of communication is Auslan. Notably, this under-representation is most significant in regard to ALBE programs directed at the development of literacy skills.

Conclusion:

Among the general ALBE service providers surveyed in this study, there was an over-all low level of awareness and information regarding appropriate educational responses for adults with impaired.

4.2 The reference group (consumer) perspective

4.2.1 The need for functional literacy skills within this population

In the context of rapid technological change, it can be argued that the need for literacy skills for many sections of the general community is diminishing. For example, the wide-spread access to radio, television and telephone communication has decreased the the absolute requirement for literacy skills in order to fulfil many information and recreation needs. The data from this study clearly indicate that literacy skills are in fact, of increasing importance within the population of people with impaired hearing and have a much wider range of necessary applications than for members of the general (hearing) community. This is particularly true in regard to social and recreational applications of literacy.

In terms of social interaction, 58% of respondents reported that they used writing and reading as a mode of interpersonal communication with unfamiliar people. Of the 63 respondents who were employed, 62% indicated that they used reading and writing as a means of communication in the workplace. Therefore, literacy skills can be seen to play a prominent role in everyday interpersonal communication within this population. This need for effective literacy skills extends to telephone communication also. Of the 80 respondents who indicated that they used the telephone, 68 (85%) reported that they used a TTY to effect telephone communication on at least some occasions. Indeed, 74% indicated that they were unable to use the telephone by any other means. Therefore, for a large proportion of this group, access to the telecommunications system is totally dependent upon their literacy skills and the literacy skills of their communication partners who in many cases will also be deaf or hearing impaired (Leigh and Smith, 1989).

In regard to general access to news and information via the conventional media, a strong dependence on literacy skills is again evident. Of the 77 people who responded to this question, 70% indicated that their most used/preferred source of current affairs information were newspapers, news magazines or text based information systems such as Seventel. In a society where so much information is conveyed through the electronic media this represents an extremely high degree of reliance upon the print media, particularly for a group who were selected on the basis of likely difficulties with literacy. Even among the 25% of respondents who identified television as their most used/preferred source of current affairs information, 63% reported that they required the use of captions (subtitles) to access this medium.

In regard to general (information or recreation) use of television, 78% of respondents indicated that they used a caption decoder in order to access television. Indeed, 72% indicated that this was the only means by which they could access television. Therefore, even recreational viewing of television requires a dependence upon literacy skills for this population.

Overall, literacy skills can be seen to play an extremely important role in all aspects of life for people with impaired hearing. In many areas, this role is even more significant than that fulfilled by literacy for other (hearing) members of society. There is clearly a need to ensure adequate and effective literacy skills within this group.

Conclusion:
Effective literacy plays a more important role in the lives of people with impaired hearing than it does in the general population.

4.2.1.1 Current educational standards

Of the total reference group in this study, only 12% reported that they achieved a level of education greater than year ten, while 29% reported a school achievement level of year six or below. A further 21% reported that they "did not know" what grade level they had achieved in school because the school was ungraded. Without exception, these were people who had attended special schools for deaf students and it can be assumed that these were programs following an essentially primary level curriculum. It is unlikely that any of these individuals actually achieved a year ten standard. The remaining 37% reported that their highest level of schooling was from years seven to ten. However, it is likely that only a small minority of these actually completed their education at a year ten standard. Overall, these results indicate an extremely low level of educational achievement and a sizeable majority of this group whose standard of education is below the basic year ten level. As a consequence, it is apparent that the majority of this group are, by definition, potential users of ALBE services.

It warrants attention that this low level of educational achievement parallels an overall dissatisfaction with school experiences. As reported in Chapter 3, 66% of respondents reported their dissatisfaction with their schooling. This issue is considered in detail in Chapter 5.

4.2.1.2 Literacy and numeracy difficulties

In regard to the functional outcomes of low educational achievement, respondents were asked to discuss the ramifications of their educational levels and, in particular, the consequences of any specific literacy and numeracy difficulties that they are currently experiencing. It should be stressed at this point that all of the data in this section is based on self assessment and reporting of literacy and numeracy difficulties. It may be assumed therefore, that this data represents an underestimate of the actual level of difficulty experienced by this group. Even with this general qualification, the statistics serve to identify a substantial need for assistance in both literacy and numeracy.

Literacy: As reported in detail in Chapter 3, 40% of respondents who had actually attempted to gain a drivers license experienced difficulty in reading and/or responding to the written component of the license test. Of even greater significance is the extremely high proportion of people who reported the belief that their low level of facility in literacy was a significant factor in the difficulties which they had experienced in gaining employment. This is consistent with the data on current employment where it was reported that 40% of respondents are unemployed or in unskilled occupations. Given these statistics it is therefore not surprising that 79% of respondents indicated that they would like the opportunity to improve their literacy skills. Of this group, 26% indicated that their current literacy skills were totally inadequate for their needs and a further 53% indicated that, while they coped with most literacy demands, they would welcome the opportunity to improve upon their low level abilities.

Table 35 provides details of the specific literacy tasks canvassed in the interview and the degree of difficulty experienced in relation to each. Notably, less than half of the sample reported that they experienced no difficulty with any of the tasks considered. In terms of the areas identified in Chapter 2, it can be seen that the greatest degree of difficulty is experienced in regard to document literacy (particularly in regard to the completion of forms). This is an area which was identified by Wickert (1989) as creating difficulty for a significant proportion of the general population also and is an obvious area for attention through ALBE programming. In regard to prose literacy, surprisingly few (less than 20%) respondents indicated inability or major difficulty in reading TTY messages or captions. This would tend to indicate a significant level of development of appropriate strategies for dealing with these types of text. That is, text which is both contextually constrained and frequently experienced. The notion of planning ALBE programs which focus on "real world knowledge" and appropriate text processing strategies for people with impaired hearing is discussed in detail in Chapter 5.

Overall, there would appear to be both a need and a clear desire for assistance in developing more effective literacy skills. This is true for all areas and, in particular, document literacy. These results confirm this need and also the potential for appropriate strategies to have a significant impact on the literacy skills of this population.

Numeracy: In regard to the use of mathematical skills, 35% reported the belief that their low level of facility in numeracy was a significant factor in the difficulties which they had experienced in gaining employment. 66% indicated that they would like the opportunity to improve their numeracy skills. Of this group, 23% indicated that their current literacy skills were totally inadequate for their needs and a further 43% indicated that, while thy coped with most numeracy demands, they would welcome the opportunity to improve their skills. However, when asked later in the interview as to what areas they would consider pursuing through adult education, only 35% suggested maths as an area of need. Certainly, this is an area of concern to this group, but to a less extent than literacy.

Table 37 provides details of the specific numeracy tasks canvassed in the interview and the degree of difficulty experienced in relation to each. Notably, more than 78% of respondents indicated that they experienced no difficulty with any of the tasks considered and fewer than 10% indicated that they experienced major difficulty in any of these areas. The tasks causing the greatest degree of difficulty were in the area described by Wickert (1989) as quantitative literacy. That is, numeracy tasks which are embedded in printed materials. In this case, the completion of bank forms and the management and payment of household accounts. However, even in this area, only 6% (or less) experienced major difficulty and 22% experienced any degree of difficulty. These figures are significant but much less significant than those for the areas of literacy discussed above. It should be noted that there is a likely relationship between the literacy aspects of these tasks and the difficulties experienced. Hence, there is reason to suspect that quantitative literacy specifically, rather than numeracy skills in general is an area for consideration in ALBE programming for this population. This is supported by the fact that 92% of respondents reported no difficulty with the numeracy skills required for day to day money usage and management.

Overall, there is evidence of a need and a desire for assistance in developing more effective skills in the area of quantitative literacy or applied numeracy. Programs to address this area should be considered in concert with the development of programs in the area of document literacy. Specific intervention to redress basic numeracy difficulties would appear to be necessary for only a very small proportion of this population. This finding is at odds with the data from the provider interviews which indicate that, for people with impaired hearing who are already involved in ALBE programs, the significant majority are involved in numeracy or maths skills programs. There is an apparent mismatch between the stated requirements of this group and actual participation in ALBE programs.

Conclusion:

There is general acceptance among people who have low-level literacy skills and who are hearing impaired, that they need, and will accept, appropriate forms of assistance to further develop their literacy abilities.

Conclusion:

The greatest degree of difficulty with literacy skills is experienced in regard to document literacy (particularly in relation to comprehending instructions and completing forms). There is little evidence of significant difficulty in numeracy but some indication of difficulty in regard to quantitative literacy (i.e. the integration of mathematical functions and printed materials). However, the relative significance of these difficulties is not currently reflected in the patterns of enrollment in ALBE programs.

4.2.2 Experience of adult education

As reported in Chapter 3, only 22% of respondents have actually undertaken any adult education to improve literacy skills or other basic educational skills (see Table 39). In considering this figure, it warrants consideration that this group includes those members of the reference group who were actually identified through the special programs section of the Deaf Society because of their current involvement in adult education. Hence, this figure will be inflated. Even without discounting this inflation however, participation is still extremely low for a group which has an identified need and reported desire to gain assistance in developing their literacy abilities. However, this low rate of participation is consistent with the low level of awareness and knowledge regarding the availability and purposes of adult education. The latter issue is considered in detail below.

For those individuals (N=37) who have had some experience of either ALBE programs or other area of adult education (i.e. special interest classes or hobby courses), 81% regarded their experience as having been successful. However, 78% reported that they experienced difficulties in communicating in these educational settings. Specifically, 27% reported that they experienced some difficulties as a consequence of the problematic attitudes of the staff in relation to accommodating their particular communication needs. Further, 30% cited the lack of availability of appropriate support services (in particular interpreters) as a significant factor in regard to the communication difficulties encountered. The lack of such services can be considered as a potential barrier for a large proportion of the overall group. In relation to a hypothetical question about future participation in an ALBE program, 71% of respondents indicated that they would consider the services of an interpreter to be a necessary requirement if they were to participate in a general ALBE program.

The issue of communication as it relates to the provision of educational services for this population is clearly significant and would appear to be central to the success of any ALBE programs that may be offered. The issues surrounding the appropriate and effective accommodation of communication preferences in adult education programs will be considered in detail in Chapter 5.

4.2.3 Knowledge of perceptions of adult education

As indicated above, the relative lack of involvement in adult education (particularly LBE programs) is consistent with the level of awareness and knowledge about such programs. When asked about the existence of programs for developing literacy or other basic education skills, 60% of respondents indicated that they had no knowledge of such programs and were only able to speculate about the possible aims of such programs. Of those that did know of such programs, the majority (30%) knew of programs that were specifically offered for deaf / hearing-impaired people. The remaining 10% knew only of the existence of regular community ALBE programs. This lack of awareness is extremely surprising, particularly when it is

considered that the Victorian Deaf Society is one of the providers of such services and 47% of the reference group reported some formal association with that organisation or one of its regional bodies. The issue of information dissemination and recruitment is obviously critical in regard to redressing this lack of awareness and knowledge about adult education within this population. These issues will be considered in detail in Chapter 5.

Even though there is currently a low level of awareness about the existence of adult education programs, there is an extremely high level of "in principle" agreement with the notion of ALBE programs and acceptance of the potential benefits. Data concerning these issues are reported in detail in Table 44. As indicated in Chapter 3, greater than 80% of all respondents regarded ALBE programs (either in reality or in prospect) as being both relevant to their needs and interesting. Of particular significance is the fact that 84% of people interviewed reported their belief that the provision of (or access to) ALBE programs was necessary where people with impaired hearing are concerned. There is a clear gap between this level of acceptance and agreement and the current level of awareness of, and (in particular) participation in , ALBE programs. The issue of providing programs and/or facilitating access for this population will be considered in further detail in Chapter 5.

Conclusion:

Within the survey group, there is a low level of awareness and understanding about current ALBE services and the extent to which they are available and/or applicable to people with impaired hearing (particularly among people who are Deaf).

5. DELIVERING ALBE SERVICES FOR PEOPLE WITH IMPAIRED HEARING

In regard to the provision of Adult Literacy and Basic Education services for people with impaired hearing, three related issues are evident. The first relates to the diversity of communication abilities (and preferences) of people with impaired hearing and the implications of this diversity in providing access to ALBE programs. The second relates to the question of whether adults with impaired hearing should be provided with access to existing ALBE programs only or additional programs that are specifically designed to meet their needs. The final issue relates to the curriculum considerations (particularly strategies and learning experiences) which are most appropriate and effective in the development of literacy skills in this population. In this chapter, the first two issues are considered collectively in light of the results of this investigation. The final issue is discussed in relation to the current literature.

5.1 Communication and program alternatives

5.1.1 Communication correlates of hearing impairment

Communication is clearly the main problem associated with a significant impairment of hearing. Communication involves two components: receptive communication (i.e. the process of receiving and comprehending communicated information) and expressive communication (i.e. the process of conveying ones thoughts and ideas to others). To greatly varying extents, hearing impairment will affect an individual's ability to use standard oral communication both receptively and expressively. More significantly, and particularly where the impairment is congenital, hearing impairment will affect the effective development of the language (in this case English) which forms the basis of that oral communication system. This is because normal language acquisition dependent upon the use of language (receptively and expressively) through the normal auditory-oral communication channel.

While language and communication abilities are clearly related, it is extremely difficult to predict the actual impact that hearing impairment will have on the development and use of language and communication skills for a particular individual. For example, it is possible that an individual with a severe (or even profound) hearing impairment will have both oral communication skills and language abilities that are ostensibly normal. However, most people with a significant impairment of hearing will experience at least some difficulties in one or both of these areas. The nature and extent of these difficulties will be dependent upon such factors

as age of onset of the impairment, age of diagnosis, early educational intervention, educational programs attended and personal motivation.

It is not possible, within this report, to discuss all of the possible outcomes resulting from impaired development of communication and language skills and the underlying developmental causes. However, some broad examples serve to illustrate the potential for diversity. It is possible, for example, that a person may have only slightly affected, but clearly intelligible speech, and yet have fundamental difficulties with aspects of English language usage - particularly in the area of syntax. Similarly, it is also possible for a person to have speech which is barely intelligible to all but those who know him or her well and yet have a full command of all facets of the English language.

Many people with impaired hearing who experience great difficulty in using oral communication, or who choose not to use this mode of communication, will use some form of signed communication. This may take the form of a manual representation of the spoken language (as in signed English, fingerspelling and, to a certain extent, Pidgin Sign English - see Glossary) or an entirely separate manually encoded language (Auslan). Here again, there exists a wide diversity in terms of the potential combinations of communication and linguistic abilities (and preferences) that hearing impaired people bring to adulthood. For example, a deaf person who was born to deaf parents may have a native facility with Auslan as a first language but also have an extremely good command of English in written, signed or possibly even oral modes. Even in the absence of any speech abilities, it is possible that such a "bilingual" person may have English language skills which are equal or superior to those of many people with impaired hearing whose main means of communication is through speech. Similarly, an individual may have well developed manual communication skills and a fully functional facility with Auslan and yet have extreme difficulty with all but the most basic aspects of English in any mode (signed, oral or written).

The point of this discussion is not to identify all of the possible variations but to stress that the range of possible combinations of communication and linguistic abilities is almost as great as the range of people with impaired hearing. It is even possible that individuals will have decidedly different abilities (or preferences) in relation to the reception and expression of linguistic information. For example, an individual with a severe hearing impairment may have well developed speech abilities but be unable to receive spoken information in all but the most ideal of listening/lipreading conditions. It should also be stressed at this point that there is little that can be predicted about an individual's particular mix of abilities from their degree of impairment or other more readily observable characteristics.

5.1.2 Language and communication preference

As evidenced in this study, it is possible (indeed probable) that a person will have the ability to use more than one communication mode (e.g. speech, cued speech, sign, writing) and perhaps

more than one linguistic code (e.g. English, sign language). The results here indicate that 25% of respondents declared their preferred mode of receptive communication to be oral (i.e. speech) while 73% declared their preferred mode to be some form of signed communication (i.e. Auslan, Signed English, PSE or fingerspelling). However, 59% of the total reference group indicated that they were, in fact, able to use oral communication successfully for at least some receptive communication purposes. Similarly 88% of respondents indicated that they were able to use some form of signed communication successfully in at least some situations. In both cases these figures indicate a much larger number of people who felt they were able to use that mode than those who indicated a preference for that mode of communication (see Tables 17 and 18). As evidenced in the detailed reporting of these results in the Chapter 3, this issue of communication preference is complicated even further by individuals who have a different preference for mode of expression and reception (see Tables 18 and 21).

A further consideration is that preference for one form of communication over another may not reflect relative competence with other alternatives. Almost all people with impaired hearing accept that intelligible speech and the ability to receive oral communication (through listening and/or lipreading) are highly desirable skills for communication with the wider society (Rodda and Grove, 1987). However, only some individuals will actually be able to use such oral skills effectively as their only form of communication. For others, these skills may be well developed but only used (of necessity) with hearing people who are unable to sign (eg. shop assistants, bank clerks etc.). For others, oral skills will be almost totally unavailable. Indeed, in this sample, 38% of respondents were unable to use oral communication successfully for any receptive communication purposes, however limited.

Even for those adults who use oral communication exclusively, the process of speaking and listening/lipreading may be extremely demanding and laborious. In such cases, the apparent quality of the person's speech may not accurately reflect the difficulty that they experience in sustaining communication through this mode. Thus, even individuals who appear to have extremely effective oral communication skills may declare a preference for some form of signed communication wherever it is available. This is particularly likely to be the case in situations (such as educational environments) where the individual is required to be actively processing communicated information rather than just sustaining conversation.

Communication preference, therefore, is not just a matter of relative competence with a particular mode of communication. Rather, it may be based upon the relative ease of use of one particular communication/linguistic combination. It is also likely that communication and linguistic preference will be function of a person's self concept and their status a member of either the Deaf Community (i.e., as a socio-cultural and linguistic minority) or the "hearing world" of mainstream language and culture (Laszlo, 1984). Regardless of reason however, the issue of language and communication "preference" and its relationship to other language and communication abilities warrants very careful attention for each individual where the provision

of educational services is concerned.

The recognition of an individuals "preferred" mode of communication is critical in terms of establishing rapport and mutual respect in educational contexts. Also, as is often the case for any adult who has a native language other than English, people with impaired hearing (in particular Deaf people) may feel vulnerable in communication with hearing people and may have little confidence in their ability to control these situations. In many cases, this perception may have been fueled by their previous school experiences where their preference for a particular mode of communication was not acknowledged or valued in the planning and presentation of educational experiences. Indeed, possible reasons for such perceptions about educational environments are evident in the results of this study.

In this study, 66% of the respondents indicated that they were dissatisfied with the education that they had received in school. Failure to recognise and/or accommodate communication preference in the school situation may be seen to play at least some role in causing this high level of dissatisfaction. Examination of the anecdotal responses to this question (see Appendix D, viii) indicate that many adults who were denied access to curriculum content through their preferred mode of communication were resentful of what they saw as the limitation of their educational potential. Comments such as " No sign at school - I could not follow what the teachers said"; "Teachers used too many stupid new (signed) English signs which made me confused"; and "we were not allowed to communicate with signs . . . there was a problem communicating with teachers" all serve to highlight this resentment. Further investigation supports this conclusion. Of the 52 respondents who indicated a preference for Auslan, all were educated (for the majority of their schooling) in environments where oral communication only 39% or some form of "English-like" signed communication 62% was used. Of this total group, 77% reported that they were dissatisfied with their education. However, of the 24 respondents who indicated a preference for oral communication, 92% were educated in schools using some form of oral communication. Among this group (where education provision correlates with current communication preference) only 46% reported dissatisfaction with their experiences. Clearly, there are strong general factors which account for an overall very high level of dissatisfaction with education within the reference group (see section 3.2.5.3). However, there is evidence to suggest that lack of acknowledgment, acceptance and utilization of preferred communication mode is a contributing factor to this disenchantment.

Unlike schools, where parental preferences and school philosophies must (rightfully or otherwise) be considered, the business of adult education is adults. To this end, if an adult expresses a preference for a particular form of communication and/or language then the full range of appropriate alternatives need to be investigated for that person. If, for example, the preference was for Auslan (and the person was seeking enrolment in a normal community-based ALBE program) then the possible alternatives would include (among others), the employment of Auslan interpreters or the deployment of deaf peer tutors. If the preference was for oral

communication then the possible responses may include (among others) the use of notetakers, the use of FM frequency or loop systems, or the provision of an oral interpreter. As stated, the critical issue in responding to stated communication preference is the extent to which the student's communication preference is valued and accepted. Ultimately however, the educational outcomes will hinge upon the extent to which the teacher and student are actually able to communicate effectively in the teaching/learning situation.

The following section of the report will consider the potential educational arrangements which are necessary to accommodate varying communication needs and preferences. Necessary arrangements may include, the provision of auditory aids and equipment, appointment of specialist personnel (including interpreters), or the adaptation and modification of materials and/or teaching strategies. However, the actual nature of special provision for these students will largely depend on whether they will be undertaking a regular ALBE program or a special program designed for the needs of students with impaired hearing. Obviously, if an adult with impaired hearing is to participate in a local community ALBE program then certain considerations will apply in regard to accommodating their preferred communication mode. However, other adults may elect to participate in a specially designed program where their communication and program needs may be more specifically considered. The latter case calls for a quite different set of provisions. Such special programs may, in fact, be the most resource-efficient method of providing services for some of these individuals. However, resource issues aside, there is clear evidence in the data from this study that such special provision is a highly desirable alternative for many members of this group. Indeed, a special program may be the only alternative considered by some adults. Clearly, the processes involved in accommodating the communication preferences of an individual will depend upon the types of programs that are available to, and undertaken by, students with impaired hearing.

Conclusion:
Accepting and accommodating a student's preferred mode of communication will be critical to the success of any educational programs conducted for this population.

5.1.3 Communication preference as related to program alternatives

While recognising individual diversity, the data from this study confirm the existence of two broad categories of potential users of ALBE services in relation to communication preference. These are: (a) people whose preferred mode of communication is essentially oral/aural, and (b) people whose preferred mode of communication is some form of sign (i.e. including those Deaf people whose preference is for sign language and those others whose preference may be for signed English, PSE or some other form of manual supplement to spoken communication). However, as indicated above, the implications of a particular communication preference will differ according to whether the student will be: (a) participating in a regular ALBE program (as offered by any of the general service providers in Victoria), or (b) participating in an ALBE

program which is designed and implemented for adults with impaired hearing. The data from this survey suggest that there is a need for both alternatives in order to effectively respond to the needs of this diverse group.

In this study, respondents were asked to indicate their likelihood of enrolling in an general ALBE program already in existence (i.e. open to all members of the public) if appropriate support services (such as interpreters) were made available. As per Table 42, 70% of respondents indicated that, if they were intending to enrol in an ALBE program, they "probably" (30%) or "definitely" (40%) would enrol in a regular (community based) program if appropriate support was available. Alternatively, only 13% indicated that they "probably would not" (4%) or "definitely would not" (9%) enrol in such a course if they were intending to undertake an ALBE program. However, of this 'would not' group, 77% indicated that they "probably would" or "definitely would" enrol in a separate program for people with a hearing impairment if one was available.

Overall these results indicate a strong support for the notion of supported integration as the preferred means of access to ALBE services for this group. However, as revealed in section 3.2.7.3, there is also a very high level of potential for this population to seek enrolment in separate programs for people with impaired hearing. In regard to this issue, respondents were asked to indicate the likelihood of their enrolling in an ALBE program which was designed for and subscribed to only by people with impaired hearing. Eighty-five people (85%) indicated that they would "probably" (39%) or "definitely" (46%) enrol in such a class if they had the option while only 9% indicated that they "probably would not" (4%) or "definitely would not" (5%) enrol in such a course.

The high level of support for these two diverse service delivery options (i.e. integrated support and special programs) is somewhat confusing. However, closer investigation provides some indication of the actual program alternatives that would be preferred and, as such, more likely to be taken up by the various communication sub-groups within this population.

Respondents were asked to indicate the likelihood of their enrolling in a regular ALBE program in which they were the only person with impaired hearing. Results for this question are reported in section 3.2.7.3 where 44% indicated that they "probably" (23%) or "definitely" (21%) would enrol in a class if they were the only deaf/hearing-impaired person while 45% indicated that they "probably would not" (17%) or "definitely would not" (28%) enrol in a course under these circumstances.

Cross tabulation of these results with the question "would you enrol in an existing program if appropriate support was made available" indicates that, of the 70 people who probably/definitely would enrol in such a program, 44% "probably would not" (19%) or "definitely would not"

(26%) enrol if, in fact, they were the only person with impaired hearing. Hence, it can be seen that, while there is strong notional support across this group for both supported access to regular programs and separate special programs, there is a section of the group for whom separate participation as an individual student would be unlikely. Closer examination of stated communication preference reveals some trends in the data regarding likely participation in these two alternative program types.

As indicated above, 45 (45%) of people indicated that they would be unlikely to enrol in an ALBE program if they were the only person with impaired hearing. Of people who declared a preference for signed communication (N=70), 36 (51%) indicated that they "probably would not" (17%) or "definitely would not" (34%) enrol in a program if they were the only person with impaired hearing. However, for people who declared a preference for oral communication (N=24), only 8 (33%) indicated that they "probably would not" (21%) or "definitely would not" (13%) enrol in a program if they were the only person with impaired hearing. When this issue is considered in conjunction with the question regarding likely enrolment in a separate program a better indication of preferred alternatives is gained. Of the 94 people who answered both of these questions, 44% indicated that they would not ("probably not " or "definitely not") enrol in a program if they were the only person with impaired hearing and that they would ("probably" or "definitely") enrol in a special program for hearing impaired people. In terms of communication preference, this combination was indicated by 25% of people who prefer oral communication, 39% of people who prefer some form of "English-like" sign (PSE / signed English / fingerspelling) and 52% of people who prefer Auslan.

It is difficult to draw firm conclusions on the basis of these "hypothetical case" type questions. However, there is consistent evidence of the need for special ALBE programs to be provided for at least some people with impaired hearing. Overall, four possible combinations of communication preference and mode of service delivery would (ideally) be required to meet the stated intentions of all members of the reference group in this study. These are: (a) regular ALBE programs with access facilitated through oral communication; (b) regular programs with access facilitated through some form of sign communication; (c) special programs where access is facilitated through the use of oral communication; and, (d) special programs where access is facilitated through the use of signed communication (particularly Auslan). In regard to special programs, there would appear to be a particular need in relation to those (deaf) people whose preferred communication mode is Auslan. In comparison, there would appear to be considerably less potential demand for special programs for people who prefer oral communication.

Further investigation reveals that, for this orally communicating group (N=25), only 2 people (8%) indicated that they "would not" consider enrolling in a regular program (i.e. with appropriate support) but "probably would" enrol in a special program. However, of the large majority who would enrol in a regular program (with support), 33% did indicated that they would be unlikely to enrol in a program if they were the only person with impaired hearing.

Therefore, while special programs may not be a necessary alternative for this group, there is evidence of likely benefits to be gained from multiple enrolment of individuals in particular ALBE programs. To this end, it is recommended that a number of ALBE service providers be designated as specific locations for supporting students with impaired hearing in regular programs (see Recommendation in section 5.1.3.1). Such centres (in particular) could be provided with the necessary infrastructure for supporting people with impaired hearing within their programs (see section 5.1.3.1). Such action would ensure appropriate support for students undertaking general programs and would greatly increase the likelihood of multiple enrolment by members of this group.

Figure 1 represents recommended types of service delivery. Based on the above discussion, the shaded areas indicate the actual combinations of program type and communication mode that is recommended be made available in order to cater for the requirements and preferences of the target population. The location and development of these programs will be considered later.

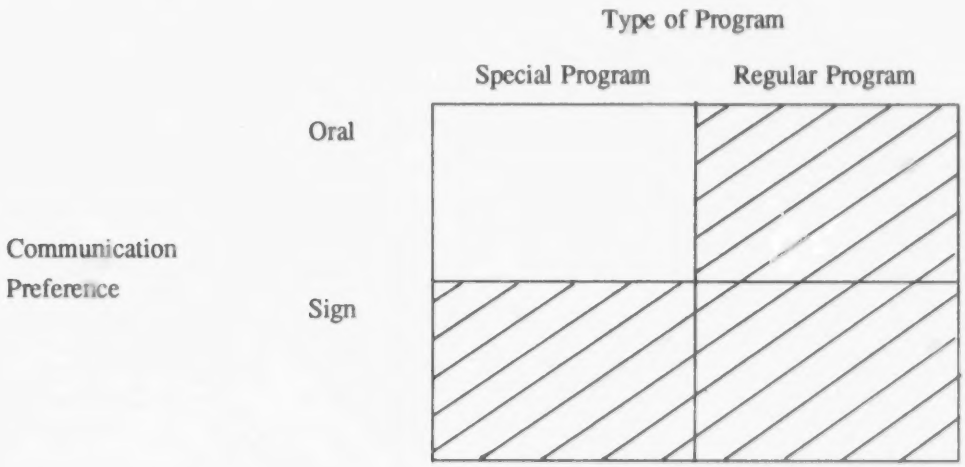


Figure 1. Required categories of service delivery / communication modality.

The specific communication and service delivery implications for each of the three categories of service outlined in Figure 1 will be considered in turn.

Conclusion:

In order to respond effectively to the ALBE requirements of this population, there is a need for **at least** three different approaches to service provision. These are: (a) existing ALBE programs with access facilitated through oral communication; (b) existing ALBE programs with access facilitated through some form of sign communication; (c) special programs where access is facilitated through the use of signed communication (particularly Auslan).

5.1.3.1 Facilitating access to regular programs - oral communication

The fact that an adult with impaired hearing is able to sustain communication in an oral-aural mode may not be an accurate reflection of the difficulties that he or she experiences in these situations. In addition, when distances are increased and other speakers or sources of competing noise are introduced (as in many educational environments) oral communication may become almost impossible without some assistance or alternative arrangements. In educational settings, such "alternative arrangements" may include, (a) the use of more appropriate or sensitive communication strategies; (b) the use of assistive communication technologies; and/or (c) the use of adjunct personnel (i.e. an oral interpreter). In financial terms, these three categories of assistance range from "cost-neutral" to those requiring either a single or recurrent commitment of financial resources. Each area will be considered in turn.

(a) **Effective oral communication strategies:**

Almost all people with impaired hearing who use oral communication effectively will use one or more hearing aids. However, there is frequently confusion about the extent to which hearing aids actually ameliorate the effects of a hearing impairment. Hearing aids, although sophisticated, are essentially only high powered miniature amplifiers and provide differential benefits to users depending upon their type and degree of impairment. For people with conductive impairments (see Glossary), the amplification received may serve to provide near normal auditory reception of speech information. However, in the case of a sensori-neural impairment (see Glossary) however, amplification may increase access to speech information but will do little to redress the significant distortion of the speech signal which such impairments create for the listener. It is important to note that, unlike spectacles, hearing aids are not capable of "restoring" normal hearing. For most hearing aid users, the process of receiving speech is one of "complementary perception" which involves the synthesis of auditory and visual information (i.e. from lipreading) in order to comprehend any spoken message.

A person who is fitted with a hearing aid must make a great deal of adjustment to each new speaker and each new listening situation. Also, many listening situations will simply not be compatible with the wearing of a hearing aid. Hearing aids serve to amplify all sounds, not just speech sounds. As a consequence, the indiscriminate amplification of environmental noise and extraneous speech sounds (i.e. background noise) may serve to mask the important spoken message.

In order to achieve an effective environment for oral communication with a student who is hearing impaired, a range of speaker and environmental factors must be considered and, if necessary, adjusted. It should be recognised that each student's case will need to be considered individually. However, a brief summation of potentially effective strategies is provided here for the benefit of potential teachers in such situations. These strategies have been summarised from those suggested in the

"Handbook for Literacy Tutors and Instructors" (Free Library of Philadelphia, 1988).

1. If the student is part of a group then arrange seating to the student's best advantage. That is, so it is possible for him or her to face the teacher and also observe the rest of the class.

2. Stand/sit such that light falls directly onto the face and does not place the face in a shadow.

3. Use a normal volume and pace of speech and do not endeavour to over-articulate for the student (exaggeration causes difficulty for the lipreader). To clarify a concept or a misinterpreted message, it should be rephrased, not restated.

4. Gain the attention of the student with impaired hearing before beginning to speak.

5. Identify other sources of information and other speakers. Request other students to ensure that the student with impaired hearing has identified them before they begin to speak (this may require the development of some cuing system with the students).

6. Write assignments and other important information on the white board (or similar).

7. Reinforce information frequently and also use appropriate questions and comments to ensure that the student is following the conversation/lesson.

8. Encourage the student to ask questions or seek clarification if he/she does not understand by providing a non-threatening environment.

9. Encourage the student (without nagging) to participate in group discussions.

10. Try to briefly discuss a topic ahead of its presentation. If possible provide a verbal (or written, if appropriate) outline of the session.

11. If isolated words are described or discussed then ensure that each word is used in context to ensure there is no ambiguity.

12. Use as many visual cues and aids as possible (e.g. diagrams, pictures, dramatizations, etc.).

13. If notes are required, another student may need to provide these for the student as it is not possible to lipread and take notes simultaneously. Similarly, it is not possible to perform other writing tasks and listen/lipread simultaneously.

14. Provide regular breaks during any longer periods of listening. Do not interpret fatigue as disinterest; lipreading and listening are tiring tasks for students with impaired hearing.

15. Reduce the level of background noise in the room to ensure that the student is able to make maximum use of his/her hearing aids.

It is recommended that basic information of this type be made available to all adult literacy and basic education tutors with a view toward their facilitation of communication with current or prospective clients who are hearing impaired and use oral communication. This may be in the form of a brochure or a comprehensive document on these issues (see Recommendation in section 5.1.4 below). In particular, such information may be profitably made available to any ALBE services which are specifically designated as support centres/locations.

(b) **Using Assistive Communication Technology:**

As previously noted, hearing aids are not able to amplify sound selectively and, as a consequence, serve to amplify all sounds whether salient to the student or not. Sound which is closest and/or loudest will tend to be amplified at the expense of the more distant (and consequently more faint) signals. Therefore, increased distance between the person wearing a hearing aid and the speaker has the effect of (a) decreasing the intensity of the amplified speech, and (b) increasing the likelihood of amplifying extraneous sounds (background noise). In the latter case, even small amounts of background noise (of little consequence to people with normal hearing) may be sufficient to completely obliterate speech comprehension for someone wearing a hearing aid (Ross and Giolas, 1972). The best way to overcome these problems is to increase the intensity of the speech relative to the noise. This can be achieved (as suggested above) by ensuring preferential seating for the student close to the teacher. All studies investigating this phenomena have demonstrated increased speech intelligibility as the distance between hearing aid and talker is reduced (Ross, 1978). However, this is not always possible and may not serve to overcome the problem of significant background noise (e.g. traffic, fans and air conditioners, etc.) or poor room acoustics. The most effective solution is to link the sound source (i.e. the talker) and the hearing aid through electronic technology.

Most hearing aids come equipped with a facility to connect them with other equipment. Most aids have a "T" switch which permits the aid to pick up electro-magnetically

induced signals without the use of wires. Many aids also have a tiny socket (an audio-input socket) which permits the direct coupling of devices to the aid. These two facilities provide access to a range of communication devices which can be used in group communication, class settings and for access to the telephone. A number of these devices have a potential for application in ALBE classes where orally communicating adults are to be included. These are:

Induction loop systems: Induction loops (or "audio-loops") are extremely simple devices that have been available to, and used by, hearing aid wearers for many years. They simply consist of a continuous loop of wire which is connected to the audio output of a standard amplifier and is then placed around a room (permanent loops are often concealed under carpet or behind skirting boards). The amplifier is then connected to a microphone, tape recorder, T.V. or other sound source and the hearing aid user simply turns the aid to the "T" position in order to receive the signal without any distraction form background noise. Because the sound is transmitted directly to the aid via an electromagnetic field, no wires or connections with the aid are visible. Smaller loops may be purchased or constructed and placed near a single user (e.g. on the back of the chair).

These devices, are inexpensive to supply (less than $200 provided an amplifier is available) and have major advantages in overcoming background noise problems in group listening situations. They have a further advantage in that they can be accessed by any hearing aid user without additional equipment. These systems have a moderate rate of use among the target group. In this study, 6 (25%) of people who indicated a preference for oral communication also indicated that they had used a loop system and found them useful in a group listening situation. A relative disadvantage of these systems is that they are only useful if there is a single speaker or sound source that requires the listeners attention, as the "T" switch cuts out the wearers normal hearing aid microphones. Therefore, there use in group participation situations (such as ALBE classes) is limited without the extraordinary inconvenience of suppling a microphone for each person. Hence, these devices would not be considered as recommended equipment for such situations. However, there application may be considered in some specific circumstances. Information regarding sources of supply and installation is provided in Appendix H.

Personal F.M. systems (radio frequency aids): These systems are typically pocket sized and are cordless. Hence they are ideal for classroom use as well as for use in larger areas and outdoors. The speaker simply clips the unit to his/her belt (or places the unit on a cord around the neck) and a clips a lapel microphone to the clothing. The listener wears the receiver in a similar manner and connects the unit to his/her hearing aids using the audio-input socket or induction plates. Speech signals from the teacher

are then transmitted via radio waves directly to the hearing aid without distortion or interference from background noise. These systems have only a minimal rate of use among the target group. In this study, only one person who indicated a preference for oral communication also indicated that they had used a radio frequency system and found them useful in a group listening situation. A further 14 (58.3%) indicated that they had never used the device or were unaware of its advantages or disadvantages for group listening situations. This is undoubtedly a function of the cost of the devices and the relative recency of their use in educational environments (i.e. the majority of respondents would never have seen them used in educational contexts). Because the majority of adults are responsible for the purchase of their own hearing aids and listening equipment, the likelihood of widespread use would be expected to be low given the average cost of the devices.

The benefits of these devices in educational situations are, however, numerous. A relative advantage of these systems is that they are equally useful in a single speaker or group participation situation (such as ALBE classes) as the listener has the option of combining the radio signal with normal audio input through the microphones of the hearing aid. Hence, these devices are highly recommended as a technology for facilitating effective inclusion of adults with impaired hearing in ALBE classes where group discussion and interaction is involved. Consideration should be given to the development of some scheme for the loan of such equipment by designated ALBE support services or through some larger scheme for equipment sharing which may be undertaken in cooperation with other providers of post-compulsory education for students with impaired hearing. This issue will be investigated in greater detail later (see Recommendation in section 5.1.3.2).

(c) **Interpreters for oral communication:**

As already discussed, many adults may cope successfully with oral communication under ideal listening/lipreading conditions but may experience extreme difficulty in classroom or other group listening situations (even with the benefit of the considerations listed above). For these individuals, one to one instruction may be necessary. If however, one to one instruction is not available or desirable, then an interpreter will almost certainly be required. As clearly outlined in previous discussion, there is an important need to consider individual preference. However, for adults who typically use oral communication, preference for type of interpreter will almost certainly be one of three types. These are, (a) oral interpretation, (b) cued speech interpretation, (c) signed English interpretation. The latter refers to the process of manually encoding all elements of English. In this study, 44% of respondents who declared a preference for oral communication indicated that when they use an interpreter they used a form of English-like signing. The provision of these services will be considered in more detail in the following sections on signed communication access.

The first option, the oral interpreter, is a relatively new concept but is gaining in acceptance by people who use oral communication. An oral interpreter is typically a normally hearing person who sits near the person with impaired hearing and transmits ". . . the content and tone of a speaker's message through clearly articulated and smoothly phrased speech, with or without voice, using appropriate verbal and non-verbal support techniques" (Guidelines for the preparation of oral interpreters, 1979). Included in the expected abilities of an oral interpreter are the skills of oral interpreting, oral translating, reverse oral interpreting and reverse oral translating (see Glossary).

Obviously, any decision to provide an oral interpreter for a student in a regular ALBE program will ultimately be a response to an identified need and/or preference on the part of the student. However, as already indicated it is considered extremely unlikely that such a provision would be required in situations where one-to-one instruction is available (for at least some of the student's program). It warrants attention that, in the context of the data for this study, there was little indication of potential demand for this service. Only 11 individuals (10%) indicated that they had ever used an oral interpreter. Notably, of this group, 4 (36%) indicated that they had also used some form of manual interpretation. However, where circumstances did dictate the need for such a service then the same conditions, expectations and considerations apply as in the case of manual communication interpreters. The following section provides relevant information in regard to these issues and also information concerning the cost and source of supply of these services. Recommendations regarding access to and deployment of interpreters are made in section 5.1.3.2 below.

Many of the support devices discussed in this section may reasonably fall within the expectations of any provider of ALBE services. More specific support processes such as special listening devices and interpreters will, however, require extra resources. As previously noted, there is evidence to suggest that there may be dual benefits associated with the designation of particular service providers as sources of specialist support services for students with impaired hearing. This designation would not necessarily dictate the provision of programs that were only available to this group. Rather, these providers would simply be better equipped to handle the particular requirements of this group through the provision of appropriate technology and the development of an infrastructure for the involvement of interpreters (where necessary). Such services would be able to fulfil the expressed need for peer group support without necessitating their involvement in programs that are specifically designed for deaf or hearing -impaired people.

Recommendation:
That consideration be given to the designation of a number of current ALBE service providers as specific support centres for students with impaired hearing.

5.1.3.2 Facilitating access to regular programs - signed communication

For adults whose preferred mode of communication is some form of signed communication, access to regular ALBE programs will need to be facilitated by personnel with appropriate skills in signed communication.

It is possible, but unlikely, that some tutors in regular ALBE programs will have appropriate skills in signed communication (only 8 providers reported these skills). However, it would be extremely unlikely that such a person could effectively conduct a class using simultaneous presentation in speech (for the majority of the group) and sign (for the individual with impaired hearing). Indeed, such a mode of presentation would only be possible if some form of English-like sign (i.e. signed English or Pidgin Sign English) were used but this would be difficult to sustain and potentially distracting for the rest of the group. Simultaneous presentation in speech and Auslan would simply not be possible. Therefore, there is little question that, for these situations, the employment of interpreters will be necessary. According to the needs and preferences of the individual student, this professional may be engaged to provide interpretation into some manual form of English or, more likely, Auslan.

For all of the reasons already identified, it is extremely important that the skills and abilities of the interpreter be matched to the communication preference and abilities of the student. In the case of students who are seeking access to regular programs, the evidence of this study would suggest that interpretation in both Auslan and "English-like sign" (i.e. Pidgin Sign English and/or signed English) may be required. For the 70% of respondents who indicated that they would "probably" (30%) or "definitely" (40%) enrol in a regular program if support was provided, 36% listed their preferred mode of communication as Auslan and 13% listed their preferred mode of communication as "English-like sign". Clearly however, there is likely to be the greatest demand for interpreters skilled in Auslan interpretation.

The interpreter serves as a "communication bridge" between the person with impaired hearing and the tutor (Carver, 1896) and serves to interpret for both the tutor and the student in two-way communication. The use of interpreters in adult education situations raises a number of educational management considerations which are not typically encountered but must be considered. Tutors in regular programs where an interpreter is employed should be aware of (at least) the following issues (N.B. these issues apply equally to the deployment of oral interpreters as outlined in the previous section):

1. The hearing impaired student is still a group member and their particular educational difficulties are not the responsibility of the interpreter. If communication or other educational difficulties arise, the tutor should initiate appropriate action.

2. Handout and outline information should be shared with the interpreter prior to sessions to ensure that he/she is familiar with the information that will be discussed and does not have to deal with papers while trying to communicate.

3. New and difficult vocabulary and concepts should be discussed with the interpreter and the student prior to the class if possible.

4. Where possible, peer assistants can/should be asked to take notes or record information for the student (i.e. this is impossible to do at the same time as watching an interpreter).

5. Questions should be directed to the student and not to the interpreter. Tutors should be willing to reword the question if it is not understood by the student.

6. "Third party" communication techniques such as "tell him . . . ." should be avoided as these serve to demean the student and interfere with the development of an open relationship.

7. Everyone involved in the class should be made aware of the presence of the interpreter and his/her role in reverse interpreting for the student (if necessary).

8. Tutors should inform the interpreter when videos, films and/or slides are to be shown so that appropriate lighting or alternative seating can be arranged.

9. Tutors should have access to information about the code of ethics and conduct for interpreters (available form the Victorian Association of Interpreters for the Deaf).

10. Procedures should be established to ensure that all parties (interpreter, student and tutor) are clear as to expectations and responsibilities.

These are considerations for all participants in the process of incorporating a student with impaired hearing into a regular program through the use of an interpreter. It warrants consideration that these issues may need to be carefully canvassed with the student concerned who may be unfamiliar with the use of professional interpreters - particularly in educational contexts. Indeed, among the reference group for this study, 84% had used an interpreter in at least some circumstances but only 64% had used a professional interpreter. The remaining 20% had only ever received such support through the efforts of friends and family members. These are not recommended alternatives for educational situations such as ALBE programs and their ad-hoc usage is to be discouraged. Such contexts require the employment of appropriately qualified personnel who are able to match their interpretation to the form and style of communication required by each student.

Such services are available on a part-time casual or contract sessional basis through the Victorian Deaf Society at rate of $20.00 per hour (as at 1st July, 1990). However, availability can vary widely and the opportunity for an individual or group of interpreters to work consistently in a particular type of educational situation would greatly enhance their effectiveness and personal satisfaction. It is strongly recommended that, subject to the confirmation of need, the Division of Further Education initiate liaison with the State Training Board, the Schools Division (Ministry of Education) and appropriate Tertiary Education providers with a view to the establishment of a common resource pool of interpreters who may be employed and deployed in a range of educational contexts. It is expected that this would prove more cost efficient than individual contracting of services and would facilitate the development of specific skills and, hence, guarantee the availability of appropriately skilled and experienced personnel. This recommendation is made in the knowledge that these same issues are currently under consideration by the Ministerial Review of Deaf Education, and also by an investigation of access for students with impaired hearing being undertaken by the State Training Board.

Further, it is recommended that the Division of Further Education consider the development of a set of guidelines (an information statement or brochure) relating to the incorporation of interpreters for the Deaf/Hearing Impaired in ALBE classes. This may most appropriately be a part of a larger reference document for all Tutors as per the Recommendation in section 5.1.4 below.

> **Recommendation:**
> That the Division of Further Education should liaise directly with the Schools Division (Ministry of Education) and the State Training Board in regard to the possible development of a comprehensive resource centre for supporting students with impaired hearing in post-compulsory educational environments.

5.1.3.3 Providing special programs using signed communication (particularly Auslan)

The establishment of special programs for using signed communication will need to be considered on a group by group basis. For the vast majority, the most appropriate form of communication will be Auslan. Of the 85 people who indicated their preparedness to enrol in a special program, 50 (85%) identified Auslan as their preferred means of communication. However, of the 16 people who indicated a preference for "English-like sign" (PSE or signed English), 50% also indicated their ability to use Auslan. Therefore, while it is possible that the majority of these programs would/could be conducted in Auslan, the issue of communication preference would still need to be considered on a course by course basis.

Two potential strategies are available for the provision of these special programs. These are:

(a) to employ an ALBE tutor to develop and teach an appropriate program for the group using an interpreter to facilitate communication. Such a person should (ideally) have appropriate qualifications and/or experience in working with students who have impaired hearing.

(b) to employ tutors with appropriate qualifications in education of the deaf and experience in working with Auslan.

Wherever possible, the second alternative is highly desirable in order to provide for the most effective tutor-student relationship and the most effective learning environment. Specifically, there would appear to be considerable potential benefits where tutors who are themselves Deaf are able to be employed. Quite apart from the sound reasons for seeking such appointments, there is clearly a potential motivational advantage associated with such action. Of the 52 respondents who indicated their preference for Auslan, 87% indicated that they would be "more likely" to enrol in an ALBE program if deaf tutors were employed. It is recognised that such personnel are not commonly available but this situation is (fortunately) changing and strong consideration should be given to location of such personnel, if only in a part-time capacity. Given the shortage however, it is recommended that consideration be given to the employment/deployment of Deaf people as assistant tutors in these special ALBE settings. Many of the same motivational and instructional outcomes may be available through this channel.

Deaf assistant tutors may be individuals who have no formal qualifications but are highly literate and able to provide a role model and appropriate assistance in the ALBE setting. They may be either employed or agree to act as volunteers in this capacity. Unlike the majority of hearing tutors, such individuals would be able to provide frequent and accurate examples of the relationship between English textual representation and the Auslan (or PSE) form, and vice versa. If a language experience approach were to be adopted, such individuals would be of significant benefit as discussion facilitators and/or scribes for the students.

Apart form the service delivery aspects of such special programs, careful consideration needs to be given to the curriculum to be adopted for such programs. Issues in relation to the development of special literacy programs for people with impaired hearing are considered in Section 5.2 below.

Recommendation:

That, wherever possible, appropriately qualified people who are themselves deaf be employed as tutors or deployed (in a paid or volunteer capacity) as assistants in special ALBE programs for this group.

5.1.3.4 Providing telephone communication - all service categories

Regardless of whether services are to be provided through special programs or supported services, there will be a need to consider students' access to telephone communication with the service provider. Use of the regular telephone will be will be unavailable to the many potential students and assistive devices will need to be considered.

Telephone Typewriters (TTYs): These devices serve to facilitate telephone communication for those people who are unable to use the telephone auditorily. In this study 68% of respondents indicate that they use a TTY for telephone communication with 59% of respondents indicating that they are only able to access the telephone through this means. Therefore, services offering special programs or supported services should have access to these devices. Alternatively, students may be able to communicate with services through the TTY/voice relay service offered by the Victorian Deaf Society. However, direct access is the most desirable and recommended option, particularly for special service providers. Suppliers are listed in Appendix H.

> **Recommendation:**
> That all services conducting special programs or offering specific support services should have access to the use of a telephone typewriter (TTY) for communication with current and prospective students with impaired hearing.

5.1.4 Recruitment, enrolment and the location of alternative programs

There is a need for all providers of ALBE services to be acquainted with a range of relevant information in order to deal with direct requests from people with impaired hearing. As has been discussed, some form of reference manual or set of information statements which cover a range of issues relating to the accommodation of such students will be of considerable importance in ensuring the delivery of appropriate local services. Providers will also require information about the range of special programs and/or support centres that are available for students with impaired hearing.

According to evidence from the interviews with providers in this study, it is most likely that the majority of individuals who contact local ALBE programs will be hearing-impaired people who use oral communication and have few specific communication requirements. However, as evidenced in both the provider interviews and the reference group interviews, it would appear that there is a large unmet need in relation to ALBE programs for both hearing impaired people with specific communication needs and (in particular) deaf people who require alternative communication systems. The evidence also suggests that these groups are largely unaware of the existence, location and/or purpose of ALBE programs and are therefore unlikely to approach local ALBE service providers (see section 4.2.4). A significant proportion are unaware of the fact that special programs exist and that assistance can be provided in relation to other programs. If special programs and/or support centres are to be viable then a considerable recruiting effort will be required.

Recruitment: Two issues warrant consideration in relation to this matter. First, there is a general need for information to be made available to the broad community which emphasises the fact that ALBE services are available to meet the needs of all members of the community regardless of disability. Second, it should be recognised that personnel in agencies serving people with impaired hearing may also have little understanding of the nature, availability and location of ALBE services. As was the case in this project, contact with representative social groups and service organisations can provide a very important information link with the population of people with impaired hearing. Wherever possible, cooperation should be sought from key personnel in each organisation with a view to determining information dissemination strategies. Wherever special programs are to be developed, or centres are to be designated to provide supported programs, some responsibility must be accepted for recruitment through liaison with such organisations. To this end it is recommended that a liaison officer from each service (or region) be designated to ensure that appropriate information sharing and recruitment strategies are established with each organisation. Based on the success of the strategies used in this project and the generally high level of interest among members, such strategies should prove immediately successful in identifying prospective users of ALBE services.

Location: In this study demographic data is available for only two main areas. These are (a) metropolitan Melbourne and (b) Geelong. However, based on the location of respondents to these interviews, it is clear that there is a widely based distribution of potential users of ALBE services throughout this greater metropolitan area. Indeed, there is no evidence in this study or other investigations (Bench and Duerdoth, 1983) to suggest any particular geographic distribution or concentration of this population.

In regard to the establishment of special programs, two strategies would appear to have potential merit. The first would be to seek the establishment of special programs in conjunction with a number of the service and social organisations for people with impaired hearing, and use the facilities and services of those organisations as a base for the program provision. It is noted that this is currently the practice with one ALBE program conducted by the Victorian Deaf Society as a service provider. However, it is also noted that this currently accounts for only a small number of students and was largely unknown to the majority of the respondents in this study regardless of their organisational affiliation. Hence, if such a strategy was to be adopted, the recruitment issues outlined above would appear to be equally relevant and the use of internal liaison procedures would continue to be critical. In particular, this strategy could include (as a minimum) the Victorian Deaf Society (and its various regional outreach centres), and the Catholic Association Deaf and Hearing-Impaired People.

The second approach would be to establish special programs in a number of regional locations based on general demographic trends and resource availability. However, in this case also, the nature and quality of the liaison and recruitment process (as outlined above) will be critical to

the viability of the program and its success in catering for the clear need that exists for ALBE services among this population.

In regard to special support centres, the same issues are evident. These centres are only likely to be viable as a consequence of two factors. Firstly, it is critical that all ALBE service providers are aware of the existence of these specific locations through the provision of comprehensive information (as previously discussed). This will ensure appropriate referral to these locations where required. Second there will be a need for active liaison and information sharing with the organisations for people with impaired hearing (as discussed above). Providers of these services would need to consider close liaison with all organisations but particularly those catering for people whose preferred mode of communication is oral (e.g. Better Hearing Australia).

In relation to all of these issues, the following recommendations are made:

Recommendation:
That ALBE service providers be provided with a set of information statements or a comprehensive manual outlining (a) appropriate strategies and approaches for incorporating students with impaired hearing into ALBE programs and, (b) the location and nature of special programs and designated support services for this group.

Recommendation:
That the Division of Further Education seek to establish further special programs for students with impaired hearing in conjunction and cooperation with a number of existing social and service organisations for people with impaired hearing;

and/or

That the the Division of Further Education seek to establish further special programs for students with impaired hearing in strategic metropolitan and regional locations. Such programs would necessarily involve comprehensive liaison with social and service organisations for deaf and hearing impaired people in regard to information sharing and recruitment.

Recommendation:
That **all** services providing special or support programs for students with impaired hearing should include a designated member of staff to liaise with the relevant social and service organisations for people with impaired hearing to ensure the provision of effective strategies for recruitment and enrolment.

5.2 Curriculum considerations

For people with fully functional literacy skills reading can be viewed as an active, constructive process which embraces the unconscious mastery of a number of cue systems. These cue systems permit the reader to access the meaning inherent in textual material. Essentially there are three cue systems which interact in this process. They are (a) the graphic and graphophonic cue system (i.e. the cues that are gained from letter-sound relationships and the identification of known words and symbols); (b) the syntactic cue system (i.e. the cues gained from the consistencies in structure of the language in print); and (c) the semantic cue system (i.e. the cues gained from the accumulated meaning of language in text). For the successful reader, reading involves the interactive use of all three systems in highly complex ways. The ability to use all cue systems is therefore, important. However, recent research into the reading processes of deaf and hearing-impaired readers has suggested that certain cue systems may be less accessible (or totally unavailable) and, as a consequence, that others may have increased significance.

There is little disagreement among theorists and practitioners that graphophonic cues are likely to be (but not always) of limited benefit for readers with impaired hearing. However, there continues to be debate as to the extent to which other elemental graphic approaches are of value to this population. Advocates of these approaches have tended to focus on the development of word recognition skills and sight-word vocabulary development. Similarly, there has been a long established emphasis on the development and/or remediation of syntactic (grammatical) abilities with a view toward improving their access to syntactic cues. This latter emphasis has been particularly evident in approaches to adult literacy skill development for people with impaired hearing. However, recently there has been an increasing focus on the use of more natural (holistic) approaches to developing reading skills for this group. That is, approaches which emphasise the development and use of semantic processing cues and metacognitive processes as primary factors in successful reading. In practice, there is probably little value in adopting a totally "either-or" position in regard to approaches to developing literacy skills for this group. However, even within some form of eclectic approach, there is sufficient evidence in the current literature to suggest that the most appropriate strategy for people with significant hearing impairments is one where the primary emphasis is on the development of semantic processing skills as part of an holistic approach.

As indicated, past approaches (particularly with adults) have tended to focus on remediating weaknesses in English grammatical skills as the basis for developing syntactic processing strategies. Such programs have typically had a dual thrust. First, there has typically been much effort directed at improving student's grammatical abilities through oral (signed) and/or written activities. Second (and perhaps most commonly), there has been extensive use of what Ewoldt (1985) and Moores (1987) have called "textual control". This refers to the practice of rewriting reading materials in "simplified" syntax and withholding more complex materials from the

students until the syntax has been mastered in other contexts (see Ewoldt, 1982 and 1984 for a detailed critique of these approaches). For young students this has extended to the production of syntactically controlled reading schemes (King and Quigley, 1985).

Ewoldt (1978) and Yurkowski and Ewoldt (1986) have argued that such step-by-step approaches which emphasise syntactic cues and/or word-level processing are both unnecessary and inappropriate for developing literacy skills in people with impaired hearing. Rather, it has been argued that by developing semantic processing strategies, it is possible for deaf readers to by-pass syntax and process print on the basis of meaning. Such an approach does not suggest that syntax and other cues are not significant in the reading process. However, it does suggest that syntactic cues are secondary to semantic cues for deaf and hearing-impaired readers. The reading process for this population can then be seen to involve some reference to graphic and syntactic cues but depend heavily on the ability to bring sufficient background knowledge and semantic awareness to the text. Yurkowski and Ewoldt (1986) argue that, given appropriate strategies and sufficient background knowledge and experience, it is possible for deaf readers to handle the complexities of reading without reference to step by step analytical type processes. There is compelling logic in this argument when it is considered that English syntax is a frequently identified area of extreme difficulty for many deaf and hearing-impaired people but world knowledge and understanding is not.

There would appear to be significant potential for holistic-type approaches to the development of literacy skills with deaf and hearing-impaired adults (indeed any adults). Wickert (1989) in her report on adult literacy in Australia emphasises that adults in ALBE programs need the opportunity to grow in their knowledge of "how the world works" (p. 49) and the opportunity to use this knowledge in accessing textual material. Holistic approaches, by nature, allow adults this opportunity. Further, such programs do not ask adults to "go back to basics" and do things that they know they can't do (e.g. sound out words, make grammatical judgements, etc) which are potentially alienating. Rather, the aim of such programs is to focus on strengths and to develop in adults the concept that reading is not about "getting it right" but is a matter of getting the message in the text through whatever method they are able to use. Adults, in particular, require sensitive tutoring to ensure their development of this concept and their use of appropriate metacognitive strategies in reading. That is to raise their consciousness in regard to the strategies they can adopt when something doesn't make sense and to suggest questions they can ask themselves about the text and their approach to it.

It is not within the scope of this report to review all of the current literature on the use of holistic approaches and metacognitive strategies in developing literacy for adults with impaired hearing. Neither is it possible to detail specific programs. However, it is possible and appropriate to highlight the great potential for such semantic based approaches to literacy development for this population and to recommend their use as the basis of any special programs for deaf/hearing-impaired people and/or for any existing programs where supported

participation of adults with impaired hearing is to be organised. There is sufficient evidence to suggest that traditional incremental or syntactically based approaches will be of limited application with this population.

In terms of possible curriculum development, two particular approaches should be considered for inclusion in programs of this type. These are (a) the "Language-Experience Approach for Hearing Impaired Students" (i.e. as outlined by Ewoldt and Hammermeister (1986) and others) and, (b) the use of dialogue journals (as outlined by Staton (1985) and others). While both of these approaches should be considered as adjunctive strategies in an overall holistic approach, they are recommended for their proven application with adults with impaired hearing. In regard to assessment of literacy abilities in this group, Ewoldt (1982) provides a sound introduction to these issues and details strategies which are efficient and consistent with a holistic programming approach.

Recommendation:
That literacy programs for adults with impaired hearing should be based on holistic principles and teaching strategies which highlight the development of semantic processing of text and the use of metacognitive skills.

Recommendation:
That information on these approaches and strategies be included in the information handbook on providing ALBE programs for people with impaired hearing.

Further specific consultation on issues in special program development for this population is available subsequent to this written report.

ACKNOWLEDGEMENTS

The project team wish to express their appreciation to the following people and organisations without whom the project would not have been possible.

Organisations

Better Hearing Australia (Victoria)
Catholic Association of Deaf and Hearing Impaired People of Australia (Victoria).
Earforce
H.E.A.R. Service
Jolimont Square Social Club
Moomba Deaf Association
Victorian Deaf Society.
Victorian Council of Deaf People.

Individuals

Jenny Adcock
Robert Adam
Stan Batson
Teresa Bird
Fr. Greg Bourke
Bernadette Coleman
Pat Counsel
Mandy Gregory
Judie Litchfield
Katherine Smitt
Sue Young

In particular, thanks and praise are due to Steven Polak and Roland Jauernig for their work in organising the coding and computer analysis and to Jenny D'Antico for her meticulous attention to detail in the typing and presentation of the report.

BIBLIOGRAPHY

Adult Literacy Victoria Contacts List (1990). Melbourne: VALBEC.

Allen, T. E. (1986). Patterns of academic achievement among hearing impaired students: 1974 and 1983. In A. N. Schildroth & M.A. Karchmer (eds), ***Deaf children in America*** (pp. 161-2-6). San Diego, Calif.: College-Hill Press.

Australian Bureau of Statistics Information Service (1990). Personal communication.

Bench, R.J. and Duerdoth, J.C.P. (Eds.) (1983). ***Victorian demographic study of hearing impairment. Vol. 1, Services and facilities for hearing impaired people in Victoria. Vol. 2, Characteristics of a sample of hearing impaired adults in Victoria.*** Melbourne: Deafness Foundation.

Cameron, R.J. (1982). ***Handicapped persons Australia.*** Canberra: Australian Bureau of Statistics.

Carver, L.S. (1986). ***ABE: The hearing impaired.*** Austin, TX: Texas Education Agency.

Conrad, R. (1977). Lip-reading by deaf and hearing children. ***British Journal of Educational Psychology,*** 47, 60-65.

Conrad, R. (1979). ***The deaf school child.*** London: Harper & Row.

Ewoldt, C. (1978). Reading for the hearing of hearing impaired: A single process. ***American Annals of the Deaf,*** 123, 943-948.

Ewoldt, C. K. (1981). A psycholinguistic description of selected deaf children reading in sign language. ***Reading Research Quarterly,*** 17, 58-59.

Ewoldt, C. (1982). Diagnostic approaches and procedures and the reading process, In Kretschmer R. (Ed.) Reading and the hearing impaired individual, ***Volta Review Special Edition,*** 84 (5), 83-94.

Ewoldt, C. K. (1984). Problems with rewritten materials, as exemplified by "to build a fire". ***American Annals of the Deaf,*** 129 (1), 23-8.

Ewoldt, C. (1985). A descriptive study of the developing literacy of young deaf children, In Kretschmers, R. (Ed.) Learning to write and writing to learn. ***Volta Review Special Edition,*** 87 (5), 109-126.

Ewoldt, C. & Hammermeister, F. (1986). The Language Experience Approach to Facilitating Reading and Writing for Hearing Impaired Students, ***American Annals of the Deaf,*** 131, 271-274.

Free Library of Philadelphia (1988). ***Adult basic education and general educational development programs for disabled adults: A handbook for literacy tutors and instructors.*** Philadelphia: ERIC Document ED 305 482.

Gentile, A. (1973). Further studies in achievement testing, hearing impaired students; 1971. ***Annual Survey of Hearing Impaired Children and Youth,*** Office of Demographic Studies, Gallaudet College, Series D, No. 13.

Grove, C., & Rodda, M. (1984). Receptive communication skill of hearing impaired students: A comparison of four methods of communication. ***American Annals of the Deaf,*** 129, 378-385.

Guidelines for the preparation of oral interpreters (1979): Support specialists for hearing-impaired individuals. ***Volta Review,*** 81, 135-145.

Hyde, M. Pattison, E. and Sherman, G (1981). Survey of the perceived needs of hearing-impaired adults in Queensland. ***Australian Journal of Audiology,*** 3(1), 5-11.

Hyde, M. and Power, D. (1990). ***A preliminary report on the study of the use of Australian Sign Language.*** Paper presented at the Annual Conference of Australian Deaf Societies, Brisbane.

Johnson, T. (1989). ***Auslan Dictionary.*** Petersham: Deafness Resources Australia.

King, C. M. and Quigley, S. P. (1985). ***Reading and deafness.*** London: Taylor and Francis.

Laszlo, C. A. (1984). Awareness and identity of the hard of hearing. In H. Hartmann & K. Hartmann (Eds.), ***Awareness and identity of the hard of hearing: Congress Report.*** Hamburg: IFHOH.

Leigh, G. and Smith, C. (1989). Telephone typewriters (TTYs): A survey of usage and perceived problems. ***Australian Hearing and Deafness Review,*** 6(1), 10-14.

Lynas, W. (1986). ***Integrating the handicapped into ordinary schools: A study of hearing-impaired pupils.*** London: Croom Helm.

MacDougall, J. (1988). ***An examination of the rehabilitation needs of people with acquired hearing loss.*** Brisbane: Brisbane C.A.E.

McAnally, P.L., Rose, S. and Quigley, S.P. (1987). ***Language learning practices with deaf children.*** Boston: College Hill Press.

Menchel, R.S. (1988). Personal experience with speech reading. In De Filippo, C.L. and Sims, D.G. (Eds.). New reflections on speechreading. ***Volta Review Special Edition,*** 90(5), 3-15.

Moores, D.F. (1987). ***Educating the deaf: Psychology principles and practices.*** Boston: Houghton Mifflin Co.

Northcott, W. H. (1977). The Oral interpreter: A Necessary support specialist for the hearing impaired. ***Volta Review,*** 79, 136-144.

Power, D. (1990). Hearing Impairment. In A. Ashman & J. Elkins (Eds.), ***Educating children with special needs.*** Sydney: Prentice Hall.

Power, D. J. (1988). Vox silenti: Australian Sign Language and the Deaf community. ***Vox, 1,*** 44-8.

Rodda, M. (1970). ***The hearing impaired school leaver.*** London: University of London Press.

Rodda, M. and Grove, C. (1987). ***Language, cognition and deafness.*** Hillsdale, NJ: Lawrence Erlbaum and Associates.

Ross, M. and Giolas T. G. (1972). Effect of classroom listening conditions upon speech intelligibility. ***Language speech and hearing services in schools,*** 4, 72-76.

Ross, M. (1978). Classroom acoustics and speech intelligibility. In, J. Katz (Ed.) ***Handbook of clinical audiology, 2nd edition.*** Baltimore: Williams and Wilkins.

Sacks, D. (1989). ***Hearing voices.*** London: Pan Books.

Savage, R. D., Evans, L., & Savage, J. F. (1981). ***Psychology and communication in deaf children.*** Sydney. Grune & Stratton.

Staton, J. (1985). Using dialogue journals for developing thinking, reading and writing with hearing impaired students, In Kretschmer, R. (Ed.). Learning to write and writing to learn. ***Volta Review Special Edition,*** 87 (5), 127-154.

Webster, A. (1986). ***Deafness, development and literacy.*** London: Methuen & Co. Ltd.

White, A. H., & Stevenson, V. M. (1975). The effects of total communication, manual communication, oral communication and reading on the learning of factual information in residential school deaf children. ***American Annals of the Deaf,*** 120, 48-57.

Wickert, R. (1989). ***No single measure: A survey of Australian adult literacy.*** Canberra: Commonwealth Department of Employment, Education and Training.

Yurkowski, P. & Ewoldt, C. (1986). A case for the semantic processing of the deaf reader. ***American Annals of the Deaf,*** 131 (3), 243-247.

GLOSSARY

adventitious Impairment occurring through illness or accident in an individual who was normally hearing at or after birth.

Acquired hearing impairment (see **adventitious**).

Auslan (see **Australian Sign Language**)

Australian Sign Language The Sign Language used by the Australian Deaf Community. Also known as Auslan. Developed out of a dialect of British Sign Language. Sign languages are distinct from one another and from the spoken language of the local community.

caption decoder Electronic device used to display subtitles on television programs. Subtitles are transmitted as "closed" (hidden) signals for certain programs and can only be viewed on screen through the use of one of these devices.

central hearing impairment An inability to process sound (especially speech) presumably due to damage to the auditory processing areas of the brain. It may or may not be accompanied by conductive and/or sensori-neural loss. It is not medically or surgically treatable.

communicative competence The ability of a person to coordinate all aspects of the communication system adequately to meet all communicative needs and requirements.

complementary perception The process of using visual (lipreading) and auditory (listening) information in a complementary manner to provide an overall understanding of a spoken message.

conductive hearing impairment A hearing impairment due to disruption of the passage of sound from the air to the cochlea. It can be due to problems in the ear canal or the middle ear. It is usually medically and/or surgically treatable. Conductive impairments primarily affect the perception of loudness of sound. That is, speech will be perceived as being of much lower intensity (loudness). Amplification (through hearing aids) is often able to restore near normal functioning in ideal listening conditions.

congenital Present in an individual at, or prior to birth.

cued speech A system of gestures used to make visible speech sounds which look alike on the lips or are not visible on the lips. In conjunction with lipreading it can give a complete visual representation of speech.

document literacy The knowledge and skills necessary to locate, comprehend written information in forms, accounts, guidelines and such.

(the) Deaf Deliberately capitalized, this term is used to refer to members of the Deaf Community (see Deaf Community).

Deaf Community The informal social grouping of people with hearing impairments. Often the Deaf Community is the main environment for social contact and activities for adults with a hearing loss. Membership of the Deaf Community is achieved (rather than ascribed) by commitment to the values of the community - particularly commitment to the use of Auslan.

expressive language Relates to the production of language through speech, sign or writing.

finger spelling A system of communication in which there is a gesture for each letter of the alphabet. Finger spelling alphabet may differ among English speaking countries (e.g. US system is one handed while the Australian system is two handed).

(the) hearing impaired This term is used to refer to those people with impaired hearing who maintain full participation in the dominant language and culture (i.e. the hearing world). Also sometimes referred to as (the) hard of hearing.

incidence The relative frequency of an occurrence given as a number per 1,000 or a percentage (e.g. the occurrence of deaf children per 1,000 live births).

lexical Word meaning level.

lexicon The store of words in semantic memory.

lipreading The recognition of speech from characteristic lip patterns of sounds. It is essentially a constructive process as only about 50% of speech sounds are recognizable or discriminable on the lips. Modern usage prefers speechreading.

oral/aural communication The process of using spoken communication expressively and receptively (i.e. through listening and/or lipreading).

oral interpreting The incidental or substantial rewording of the speaker's remarks, presented with or without voice and always with natural lip movements.

oral translating Verbatim presentation of the speaker's remarks by means of natural lip movements, with or without voice.

people with impaired hearing In the context of this report this term is used to describe people with any degree of hearing impairment (from mild to profound) and includes those groups already defined as Deaf and hearing impaired.

perceptual disability An inability to interpret information gained through the senses. May involve visual and auditory information. Sometimes called perceptual processing disorder.

Pidgin Sign English (PSE) A pidgin derived from the use of Auslan signs in an (essentially) English word order with fingerspelling of many English words. As in many spoken pidgins elements of either language may be relatively emphasised by particular users.

postlingual Refers to hearing impairment occurring after normal speech and language are established. The third birthday is used as a benchmark though some writers prefer adolescence.

pragmatics The study of the uses to which communication is put.

prevalence The number of cases existing within the population at any given time (e.g. the percentage of the total population having a hearing difficulty).

prose literacy The knowledge and skills necessary to understand and use textual material.

quantitative literacy The knowledge and skills necessary to complete mathematical tasks (particularly mathematical operations) that are embedded in printed materials.

receptive language Relates to the receiving and understanding of linguistic information.

reverse oral interpreting Verbal rephrasing of the message of a hearing-impaired person who may or may not use voiced speech, standard inflectional patterns, and grammatical construction.

reverse oral translating Vocal expression of the exact words of a hearing-impaired speaker who may or may not use voiced speech, standard inflectional patterns, and grammatical construction.

semantics The study of meaning in language.

sensori-neural hearing impairment A hearing impairment occurring as a consequence of indiscriminate damage to (or non-development of) the hair cells of the cochlea and/or the auditory nerve which transmits sound to the brain. Such an impairment affects both the

perception of loudness and also the quality of sound received. That is, sound will be perceived as being of much lower intensity (if at all) and will be heavily distorted. Hearing aids may/may not be of value in providing auditory access to spoken information.

sign language A visual-motor communication system commonly used among Deaf people in which gestures are used instead of speech. Sign languages have grammars and vocabularies different to one another and to the spoken languages of the countries in which they are used.

signed English A system of representing English on the hands in which invented signs and the signs of sign language provide the words with fingerspelling adding the inflection of English.

skill An acquired aptitude or learned act.

speechreading The use of any non-auditory cues to understand speech. Its major component is lipreading but other cues such as gesture, facial expression and general context may also be used to aid in the interpretation of speech.

syntax The structures and order of language, sometimes synonymous with grammar.

Telephone Typewriter (TTY) Electronic device used to facilitate telephone communication for people with impaired hearing. One device is required by each communication partner. Messages are typed instead of spoken and are received on a small screen and/or paper roll.

Teletex Textual information transmitted as a "hidden" electronic signal which may be decoded by use of a teletex decoder (similar to, or in some cases the same as, a caption decoder). Teletex broadcasts carry a variety of news, information and advertising .

threshold (of hearing) The softest sound which a given person can hear at a given frequency. This may be either "within normal limits" or "elevated". In the latter case, the person has a hearing loss of a given level at that frequency.

Total Communication An approach to communication for people with a hearing impairment which holds that any method of communication necessary for such pupils should be used during the learning process. These could include speech, listening, speechreading, signed English or Auslan or any combination of these, depending on the situation. In practice, it has usually meant speech plus signed English, particularly for teachers communicating with students with a hearing impairment.